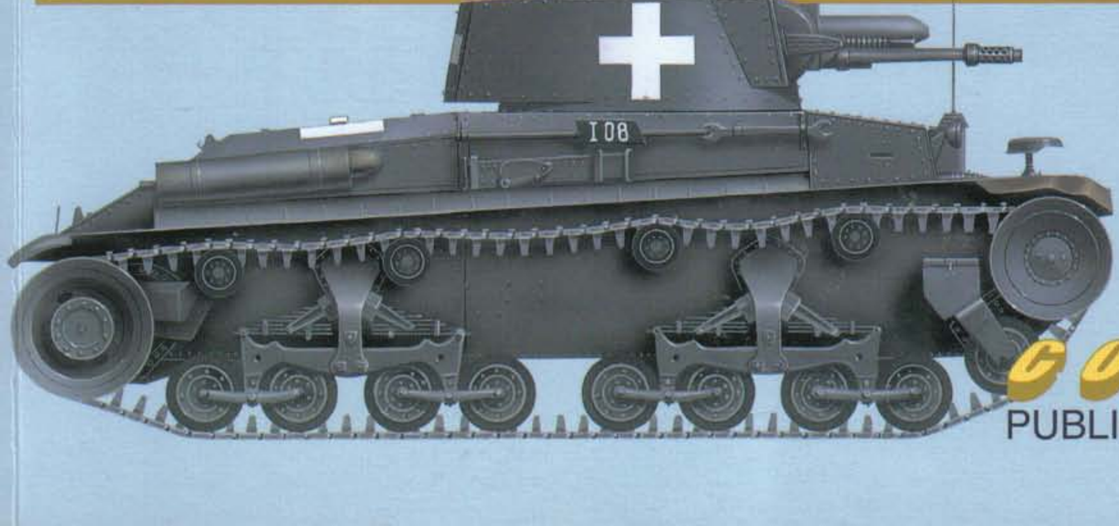
ARMOR AT WAR SERIES

7033

PANZER-DIVISION 1935-1945

(1) The Early Years 1935-1941

Robert Michulec



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INTRODUCTION

The first Panzer training unit, Kraftfahrlehrkommando Zossen, was formed on November 1, 1933. Two years later, in August 1935, trial exercises for the first Panzer-Division were conducted by the German Army. At this time, based on theory, the strength of the Division was 12,953 men with 4,025 wheeled and 481 tracked vehicles. This took place only five years after the development of the Kleintraktor, forerunner of the Pz.Kpfw.I, which was to become the first mass produced tank for the German Army. It would be important to stress, however, that German doctrine was based on the concepts of armored warfare then being promoted by pioneers such as J.F.C. Fuller of Great Britain and Charles de Gaulle of France. In his memoirs, Guderian also credits the work of Ludwig von Eimannsberger, a leading Austrian tank expert, published in 1934.

Formation of the next two Panzer-Divisions followed quickly after, on October 15, 1935. Initially, men for these units came from the Kavallerie-Divisions. The choice of these divisions and not the Infanterie-Divisions, was logical and obvious. The new Panzer-Divisions were to act with speed, thus the cadres would best be formed with Kavallerie officers and NCOs, who were already trained to employ the same type of tactics. Meanwhile, in other armies, tanks would continue to be developed to support infantry as mobile artillery.

By November 1938, two new Panzer-Divisions had been formed, along with four leichte Divisions, two independent Heerestruppen Panzer-Regiments, an independent Heerestruppen Panzer-Abteilung and a Lehr und Versuchstruppen Panzer-Lehr-Abteilung. Within three years, the German Army had created one of the strongest armored forces in the world.

The organization of the new divisions was somewhat different than the first three. Three years of training and experience had influenced the organizational structure of the Panzer-Division. The core of the division remained the Panzer-Regiment and changed very little compared to the divisional troop structure. The concept of an integral reconnaissance aviation Abteilung was dropped and an anti-aircraft unit established. These and many other minor changes made the Panzer-Division more independent and powerful.

Pz.Rgt.35 and 36 formed the new 4.Panzer-Division, while Pz.Rgt.15 and 31 formed the newly created 5.Panzer-Division. Except for Pz.Rgt.15, which was created in 1937, the new Regiments were established on the same date as the Division to which they belonged. They were created from existing Regiments and Abteilung in the Heerestruppen. For example, Pz.Rgt.31 was formed from I./Pz.Abt.27 and I./Pz.Abt.31 which had been previously assigned to II.A.K. and IV.A.K. They were organized into Brigades of two Regiments which were subordinated directly to the divisional staff. The leichte Divisions consisted of a single Panzer-Abteilung each. Theoretically, each Panzer-Division had the same authorized strength, though this was not true in practice. Nevertheless, at the outbreak of the war, the Panzer-Divisions were quite powerful formations with a theoretical strength of no less than 12,000 men, 140 guns and mortars, 2,000 cars and trucks as well as almost 1,300 motorcycles. Each Panzer-Division averaged about 350 tanks, somewhat less than the 481 tanks in the original 1.Panzer-Division.

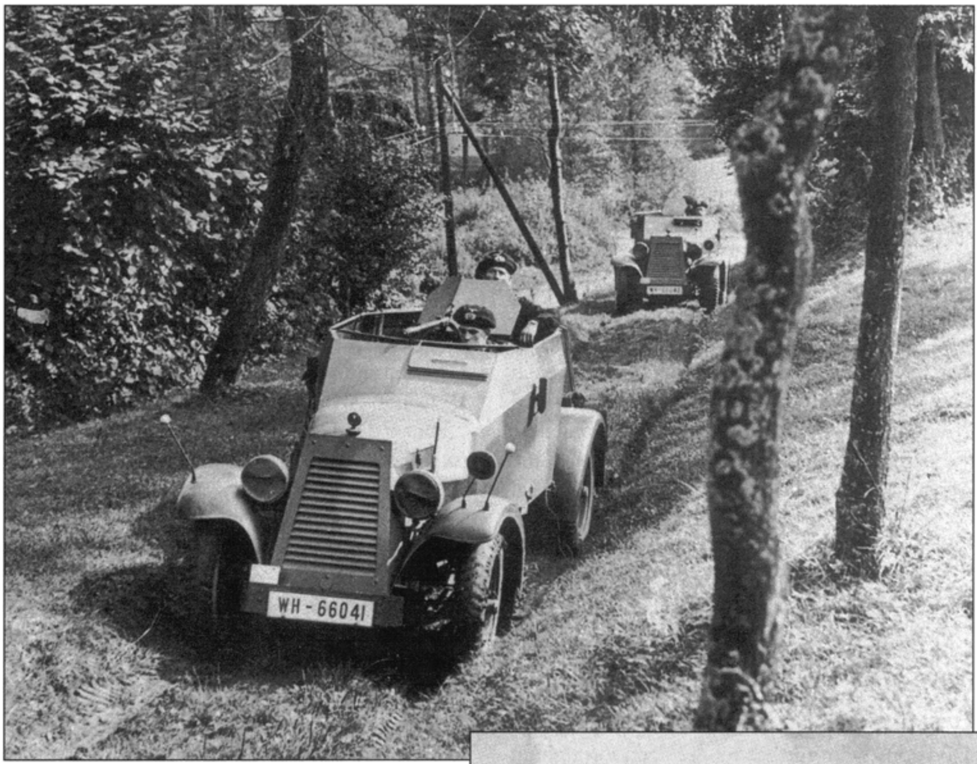
After the defeat of Poland, the Panzer-Divisions were further reorganized throughout the fall of 1939 and into the spring of 1940. In October 1939, 1, 2, and 3.leichte Division were renamed 6, 7, and 8.Panzer-Division respectively and in January 1940, 4.leichte Division was renamed 9.Panzer-Division. 10.Panzer-Division was formed from 4.Pz.Brig. with Pz.Rgt.7 and 8. The German Army now had ten Panzer-Divisions ready for the coming offensive against France. However, only the old Panzer-Divisions and the new 10.Panzer-Division had four Battalions of tanks in two Regiments under the command of a Panzer-Brigade. The rest of the new divisions were organized with Regiments composed of three Battalions except for 9.Panzer-Division which had only two Battalions in its Pz.Rgt.33.

During the war against France, the Panzer-Divisions proved to be first class formations, well trained and organized. Lessons learned from the war in Poland were applied to offensive operations and mistakes were not repeated. Leading of armored units in large scale actions was improved as was the use of small tank units. Committing tanks to fight in urban areas was avoided as a result of the experience of 4.Panzer-Division in Warsaw, as was providing infantry support with light tanks such as the Pz.Kpfw.I and II, that were not equipped for that role, as had been experienced by 4.leichte Division. It was these lessons that eventually led to the elimination of the leichte Divisions. After this, the tanks would be used in one way only - massed charges to break through the front lines and pursuit of the enemy in his rear areas. When the terrain permitted, the most effective method of using the Panzers was in massed attacks with infantry support where the enemy was overwhelmed with speed and massive firepower. The success of such an attack could only be accomplished with a sufficient number of tanks as some would inevitably fall victim to enemy anti-tanks guns. To achieve this, the Panzer-Divisions were organized into Panzer-Korps. Only 9.Panzer-Division was utilized by itself in Holland while the remainder were organized into four Panzer-Korps. Panzer-Gruppe von Kleist was made up of two Panzer-Korps, XIX.Pz.K with 1, 2, and 10.Panzer-Division and XLI.Pz.K. with 6 and 8.Panzer-Division. XV.Pz.K. was made up of 5 and 7.Panzer-Division and XVI.Pz.K was made up of 3 and 4.Panzer-Division.

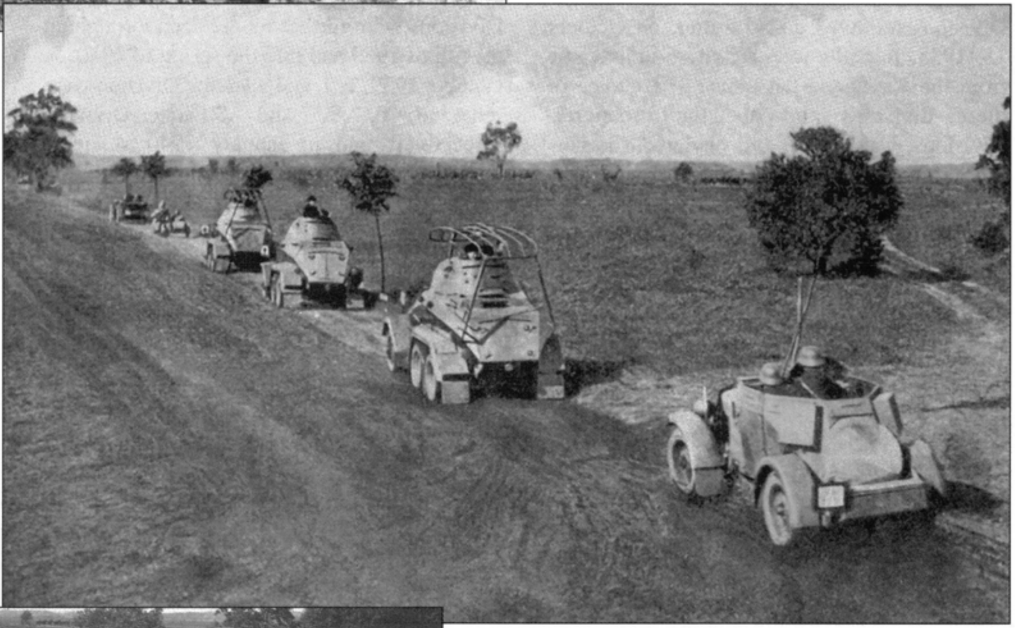
After the fall of France, another period of reorganization took place. Beginning in August 1940, the number of Panzer-Divisions was doubled, the last one being formed on January 10, 1941. This was done by reorganizing seven Infanterie-Divisions and one Schützen-Brigade into Panzer-Divisions and transferring Panzer-Regiments from the other ten Panzer-Divisions to form the nucleus of the new units. Two of them, 18 and 20.Panzer-Division, were raised as completely new units with Pz.Rgt.18 and 28 and Pz.Rgt.21 as their Panzer-Regiments. The organization of the Panzer-Divisions was also changed in February 1941. Light companies would now be equipped with 17 Pz.Kpfw.III and 5 Pz.Kpfw.II while the medium companies would be equipped with 14 Pz.Kpfw.IV and 5 Pz.Kpfw.II. Because there were not enough of the Pz.Kpfw.III and IV to fully equip all the Panzer-Divisions, many of them continued to be equipped with the lighter Pz.Kpfw.I, Pz.Kpfw.35(t) and 38(t) and Pz.Kpfw.II. When Germany launched Operation 'Marita' in the Balkans in April 1941, no more than 20 Pz.Kpfw.IV equipped each of the six Panzer-Divisions that took part, except for 8.Panzer-Division, which had only 30. Two Panzer-Divisions still were equipped with a few Pz.Kpfw.I.

This situation arose because of the inability of German industry to produce the needed number of new tanks and trucks. All available vehicles were being put to use, however, many were obsolete and not standardized, which created difficulties in obtaining parts for repairs. The number of tanks in the division was proportional to the number of other vehicles, so that more tanks meant more support troops and, therefore, more vehicles to transport them. Since this need could not be provided, the 150-200 tanks per division appeared to be the optimal solution.

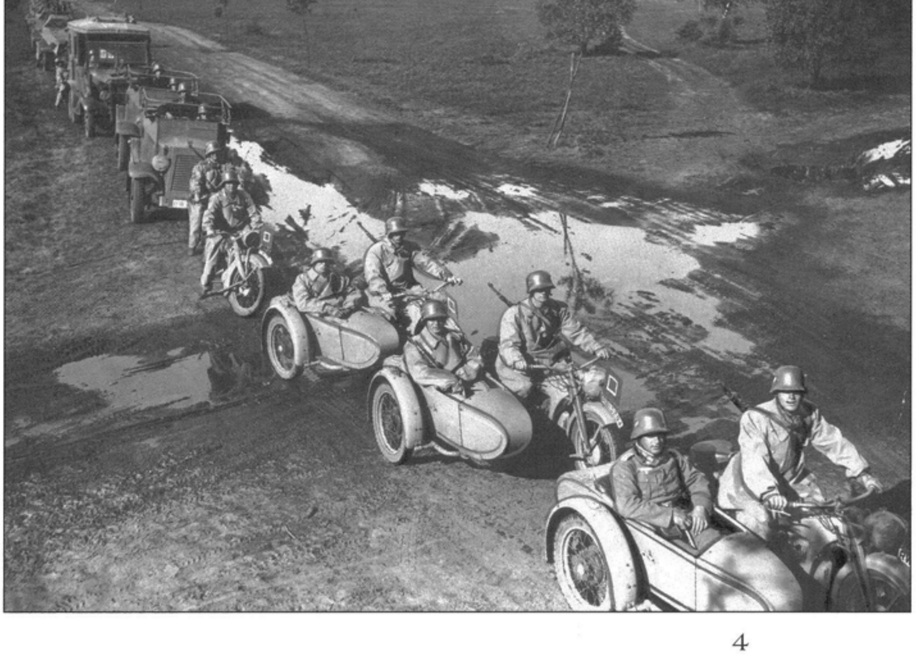
With these reduced strength Panzer-Divisions, the Wehrmacht marched into the Soviet Union on June 22, 1941.



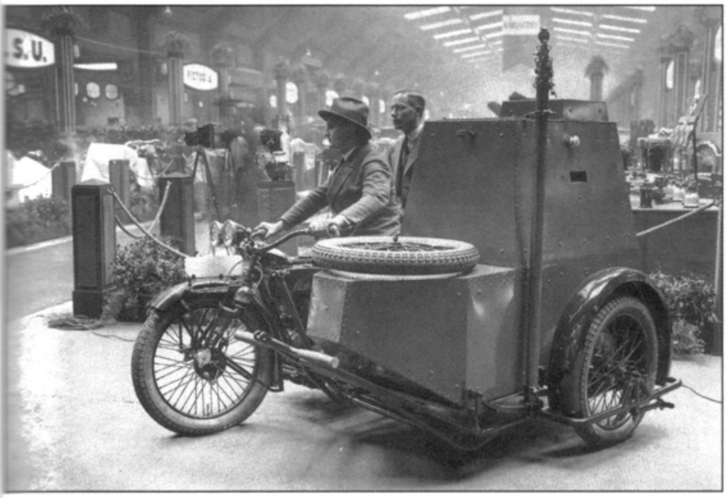
Two Adler Kfz.13 armored reconnaissance cars photographed during field exercises in Germany in 1936. Both vehicles carry the same type of camouflage pattern typical for the early 1930s period. The paint scheme was composed of three colors sprayed over the sides and upper surfaces of the vehicle. The markings though are unusual. There is a white silhouette of a heavy armored car similar to the schwere Panzerspähwagen (Sd.Kfz.231) 6-Rad on the front of the superstructure, while just over the license plate is a small white plate with the silhouette of an armored car in black outline. The Wehrmacht registration number plates are sequential, the first one has WH-66041 while the one following has WH-66042. Both vehicles also carry a square pennant mounted just behind the left headlight. Other photos of this column show this was probably a white outline square on a red background.



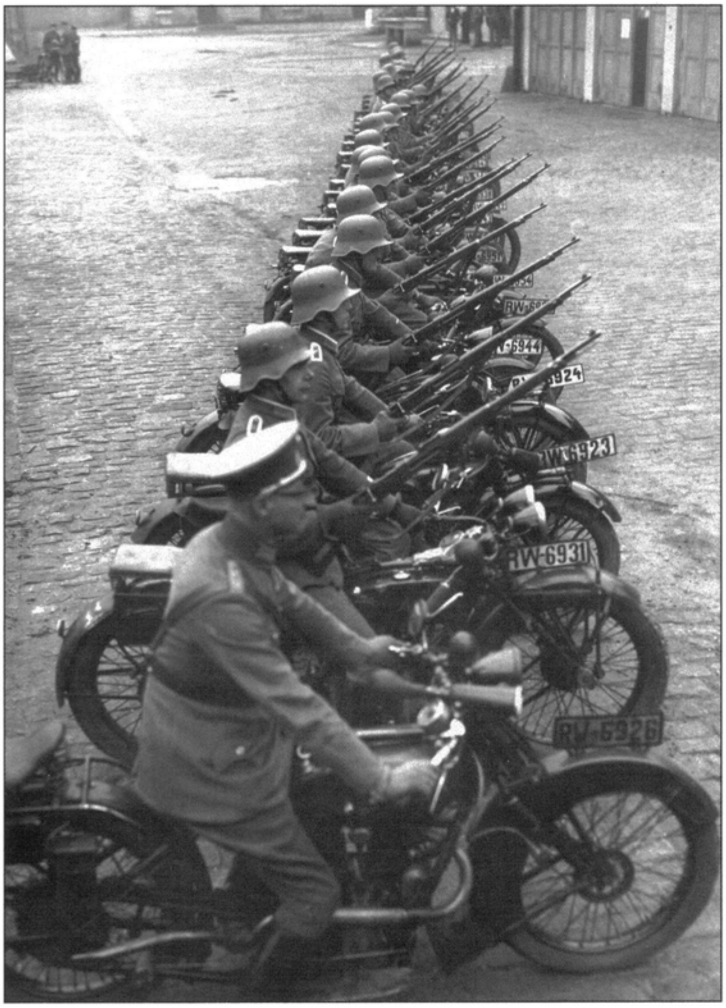
A column of armored reconnaissance cars on maneuvers in 1935. The column is being led by a cross-country car followed by a motorcycle combination and three heavy armored cars, two Sd.Kfz.232 (with frame antenna) and an Sd.Kfz.231. Closest to the camera is an Adler Kfz.13, on which can be seen the early Reichswehr license plate and a camouflage painted spare wheel cover. There were 187 built between 1932 and 1934 on the chassis of the Adler Standard 6 passenger car in the standard (Kfz.13) and radio (Kfz.14) versions. Initially they were used as a training vehicle and served in the reconnaissance units of the Panzer Divisions and later in non-motorized Infantry Divisions, after they had been replaced by the newer Sd.Kfz.221 and 223. Many saw action in Poland, but by 1941 they were withdrawn from service.



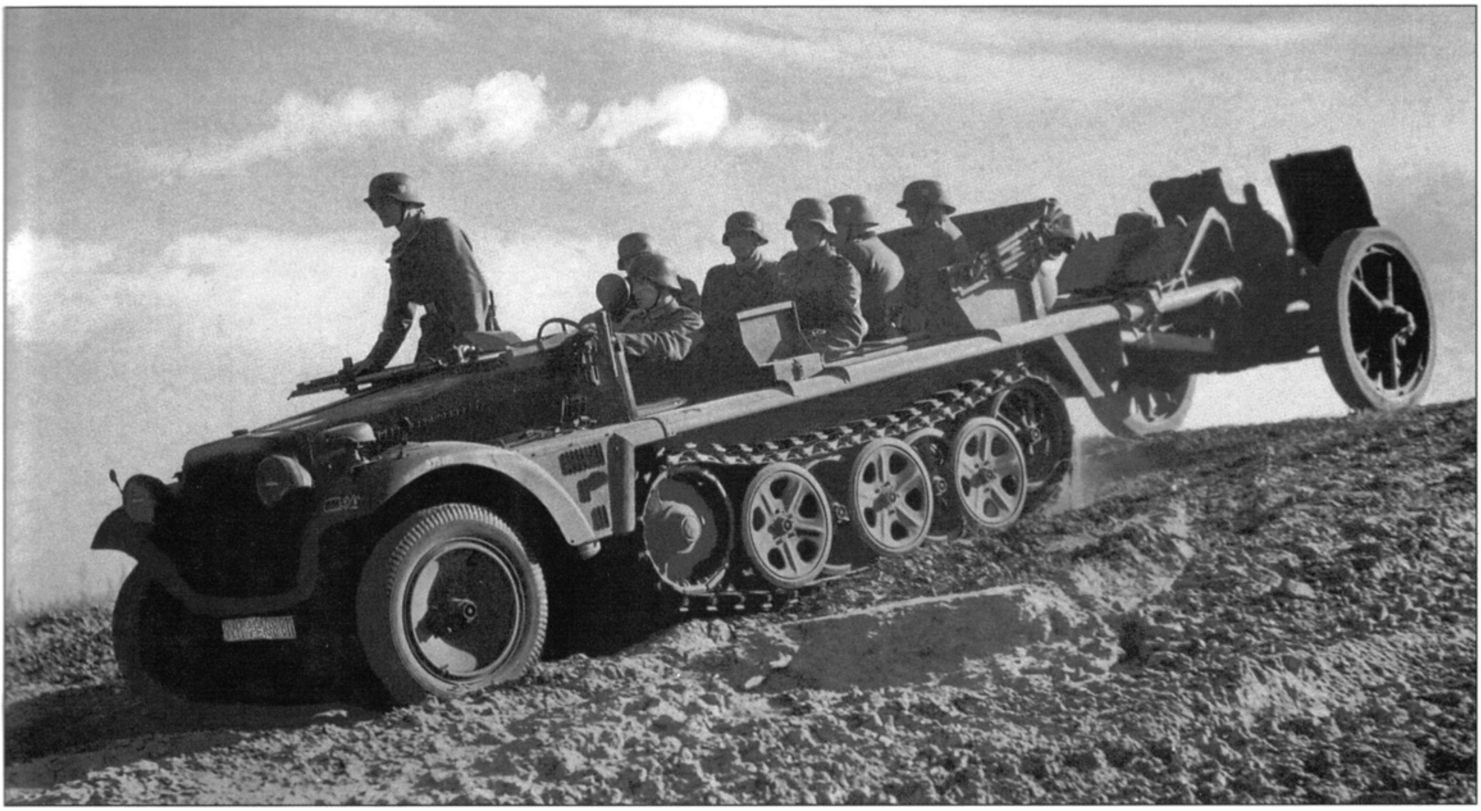
Another, slightly retouched, photograph of the same column. In front are three Zündapp K800 motorcycle combinations followed by two solo BMW R4's. Behind them are two Adler Funkkraftwagen (Kfz.14) and a Mercedes-Benz G3a (Kfz.61) wireless truck. At least three Sd.Kfz.231 6-Rad and Sd.Kfz.232 6-Rad armored cars and some other unidentifiable vehicles bring up the rear. All of them display typical Reichswehr markings including license plates and the square pennants indicating the troop.



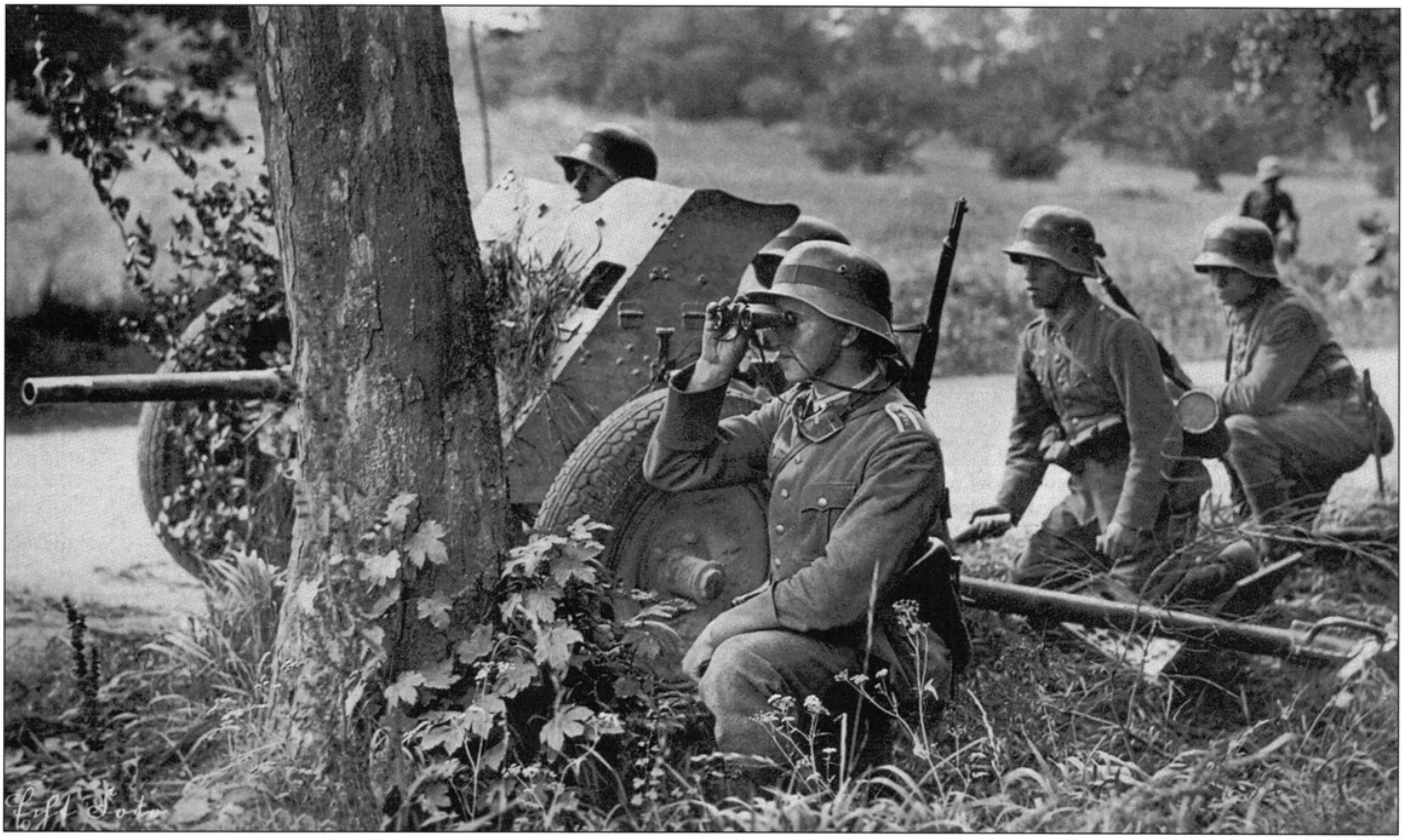
During the early stages of armored forces organization, many armies placed high importance on the large-scale motorization of formations, and thus employed many motorcycles and other light, fragile vehicles, many of which were modified in peculiar ways to permit as wide a variety of uses as possible. Here is an example of one of those ideas - a light motorcycle with an armored sidecar for use as a mobile radio vehicle. Mounted on the side is a telescoping 10 meter antenna. This rather absurd proposal was exhibited in Germany during an automobile show that was opened by Reichswehrminister Krohne on October 26, 1928. Fortunately for the future Wehrmacht, this was not accepted for series production.



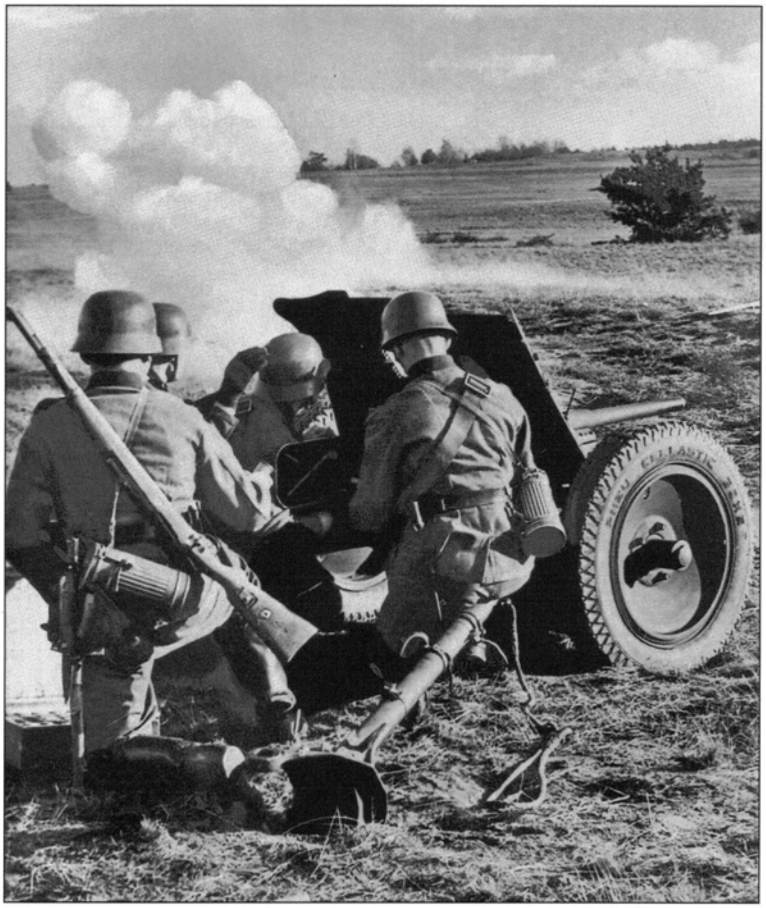
Motorcycle troops played the role of modern cavalry in the 1920s and 1930s Reichswehr as can be seen by these troops on their Victoria motorcycles, lined up in a kaserne in the manner typical of the cavalry. Cavalry helmets are worn by the troops who are also armed with Mauser K-98 rifles.



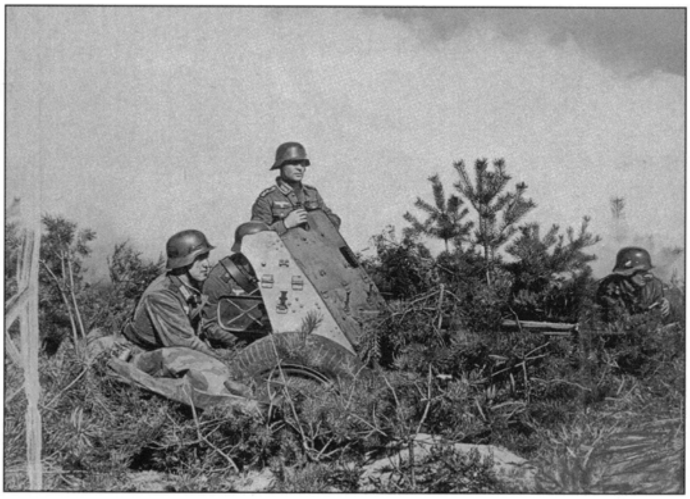
One of the most valuable additions to the Panzer-Divisions in the late 1930s was the half-track prime movers employed by the artillery troops. These vehicles enabled the Germans to move supporting artillery units across virtually any type of terrain allowing for frequent changing of firing positions. They also allowed the artillery batteries to keep up with the advancing Panzer companies and provide fire support when needed. This photo shows one of the most numerous of the light half-track prime movers, an Sd.Kfz.10, towing a 15cm sIG33 in Poland in 1939. It was used throughout the war to tow various light infantry and anti-tank guns.



At the beginning of the war, the anti-tank defense of the Panzer-Divisions was based on the 3.7cm PaK35/36. One of the best anti-tank guns of its day, it was produced in large numbers and was utilized in various forms during the entire war. This one is shown during field exercises in the late 1930s. During these exercises, the troops were identified as friendly or enemy forces by red or yellow bands around their helmets. Here, this gun crew are wearing red bands on their older style M1916 steel helmets. The Unteroffizier gun commander has a white metal Gothic script 'P' and a '2' on his shoulder strap denoting Panzer-Abwehr-Abteilung 2 of 1.Panzer-Division. His early M1928 uniform also features large, turned back cuffs and NCO braid on the top of the collar.

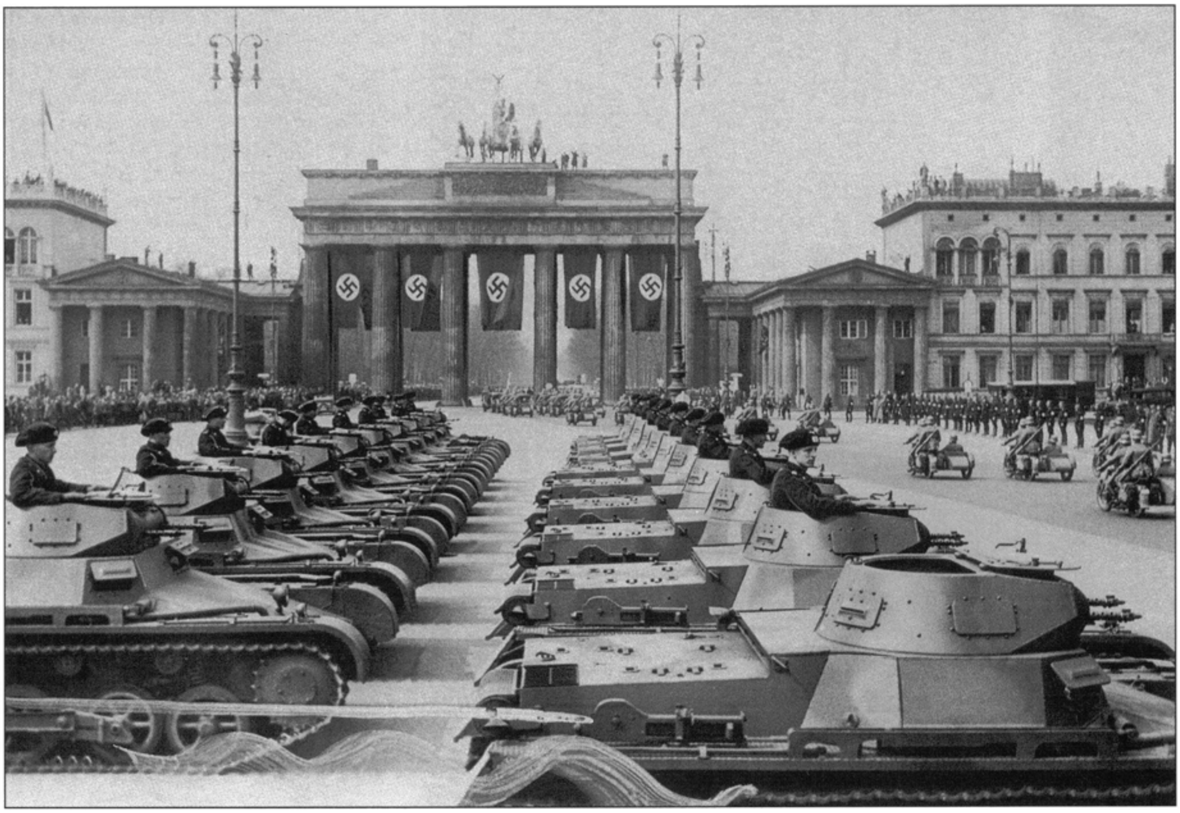


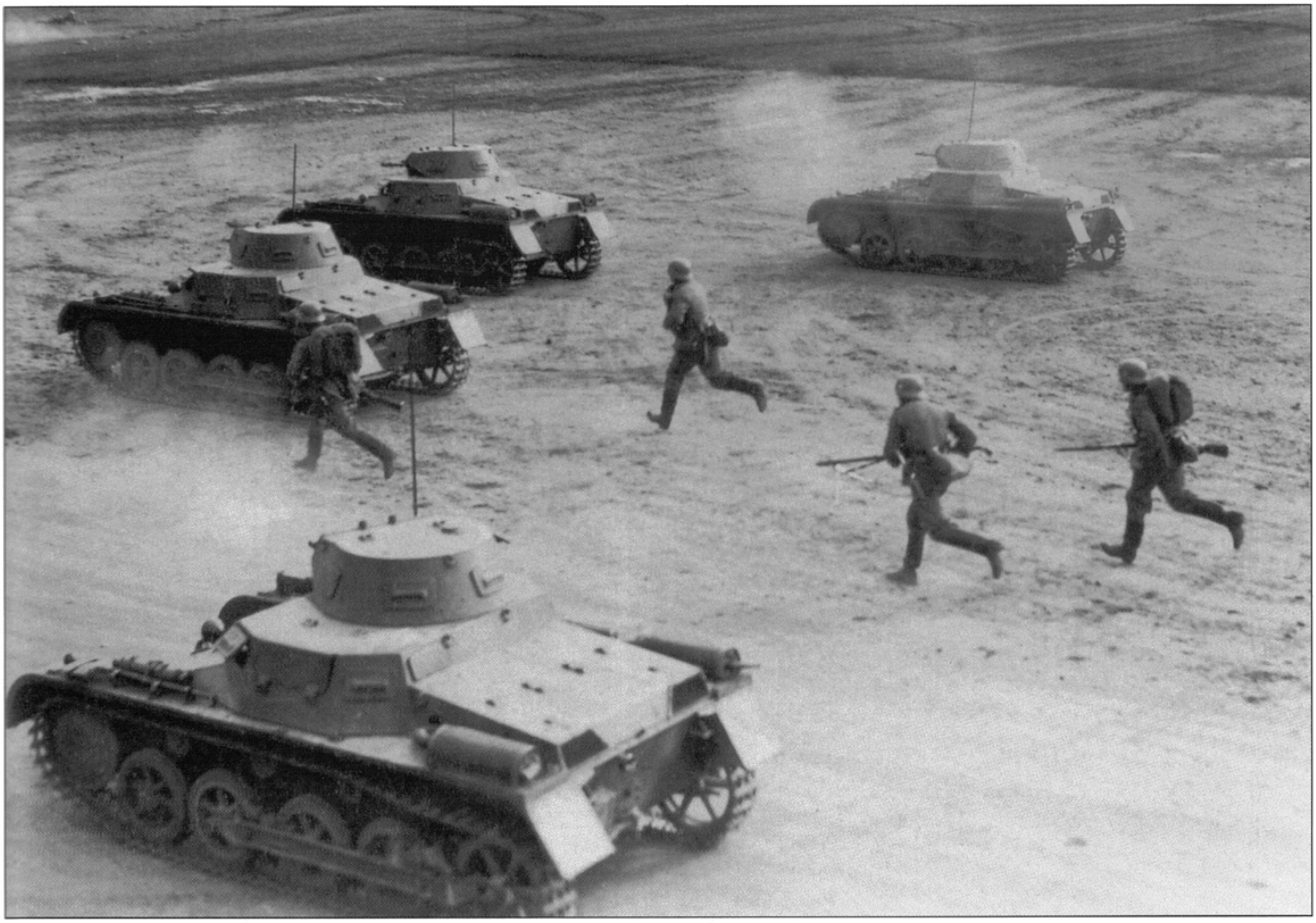
Another 3.7cm PaK35/36 anti-tank gun photographed during pre-war field exercises. The L/45 caliber gun using standard armor piercing ammunition could penetrate 38mm of armor at a range of 400 meters which was impressive for its time. This crew is wearing the standard M1935 uniform with the dark green collar. The man on the right has the wide leather bandoleer that was used by artillery crews to help manhandle their guns.



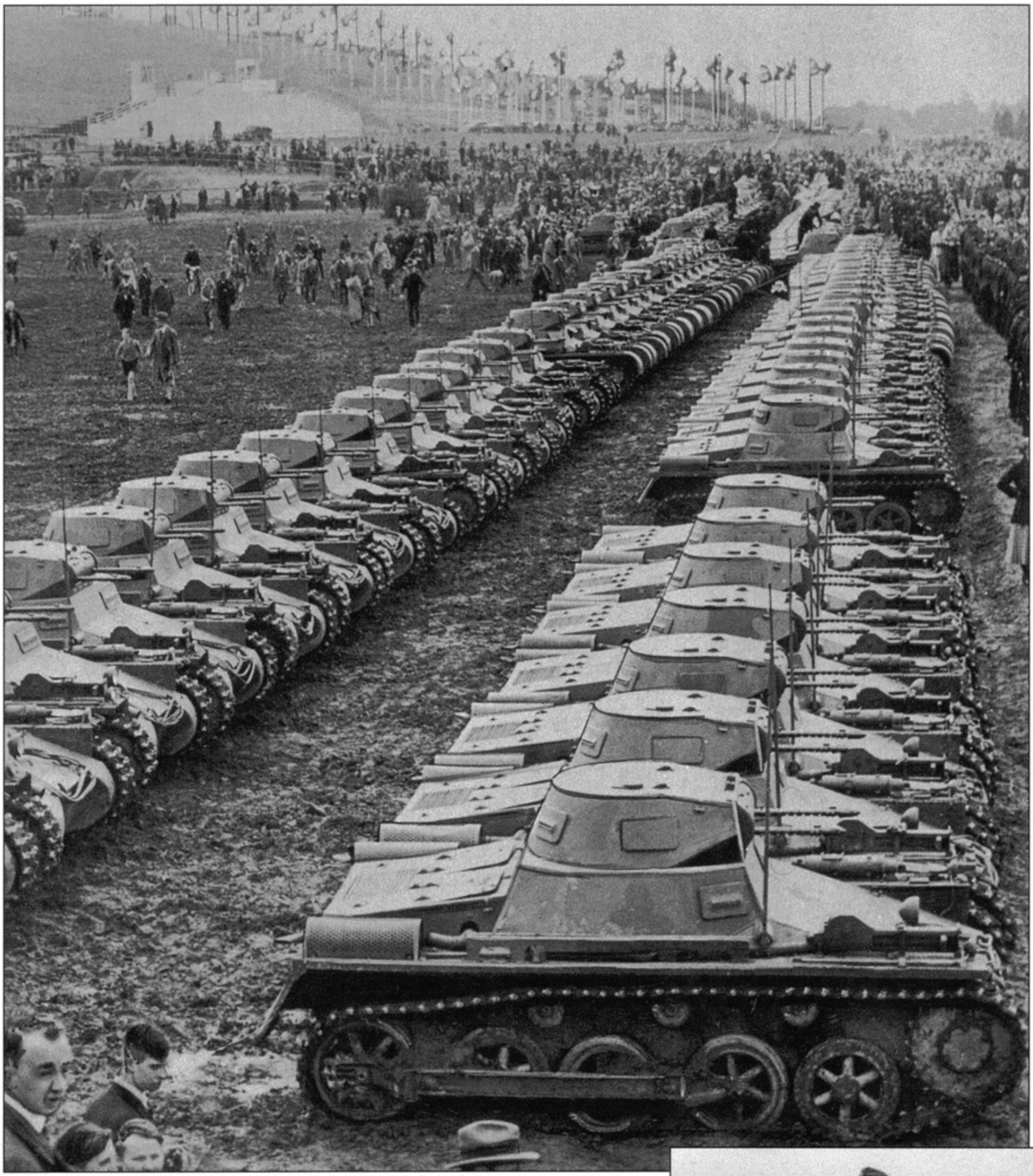
The 3.7cm PaK35/36 was utilized by all the antitank abteilungen (a battalion with less than 5 companies), originally called Panzer-Abwehr-Abteilungen and later called Panzer-Jäger-Abteilungen, until late 1940 when it began to be replaced by the 5cm PaK38. At the outbreak of the war, the standard organization of such battalions provided 3 companies each armed with 12 guns. They were also equipped with 54 light trucks, 12 cars and 18 motorcycles.

Two rows of Pz.Kpfw.I Ausf.A and Ausf.B light tanks wait near the Brandenburg Gate for the order to join a parade in Berlin in 1936. Twenty-one tanks are visible in the photograph - almost an entire company. They are painted in a three color camouflage pattern of green, gray and light brown applied to the upper surfaces of the hull and turret. The 400mm difference in the length of the Ausf.B in the foreground compared to the Ausf.A behind is apparent in the row of tanks on the right.

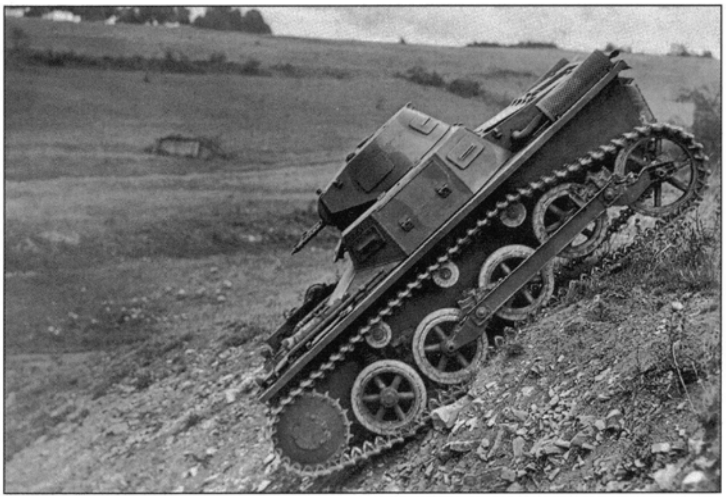




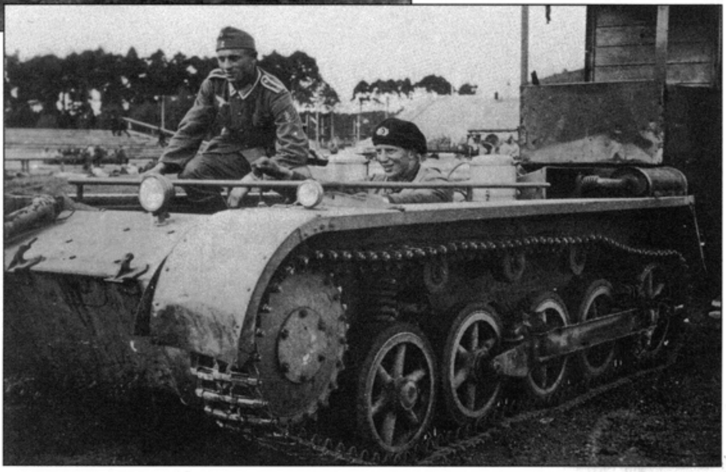
A platoon of Pz.Kpfw.I Ausf.A storms an imaginary enemy position during pre-war field exercises. As can be seen, the attack was carried out with a line of tanks supported by infantry running on foot among them. Such exercises showed the need for the supporting infantry to have their own armored transportation to keep up with the attacking tanks. Two of the soldiers are carrying their complete combat packs with the blanket rolled up around them which were normally carried by the divisional transport.



Rows of Pz.Kpfw.I Ausf.A lined up for public inspection during 'Tag der Wehrmacht' (Army Day) celebrations at Nuremburg on September 14, 1936. All the tanks have a similar three color camouflage paint scheme and are equipped with radios, an indication the Germans already understood the importance of good communications on the battlefield when the first Panzer-Divisions were created. The situation was quite different in other armies.

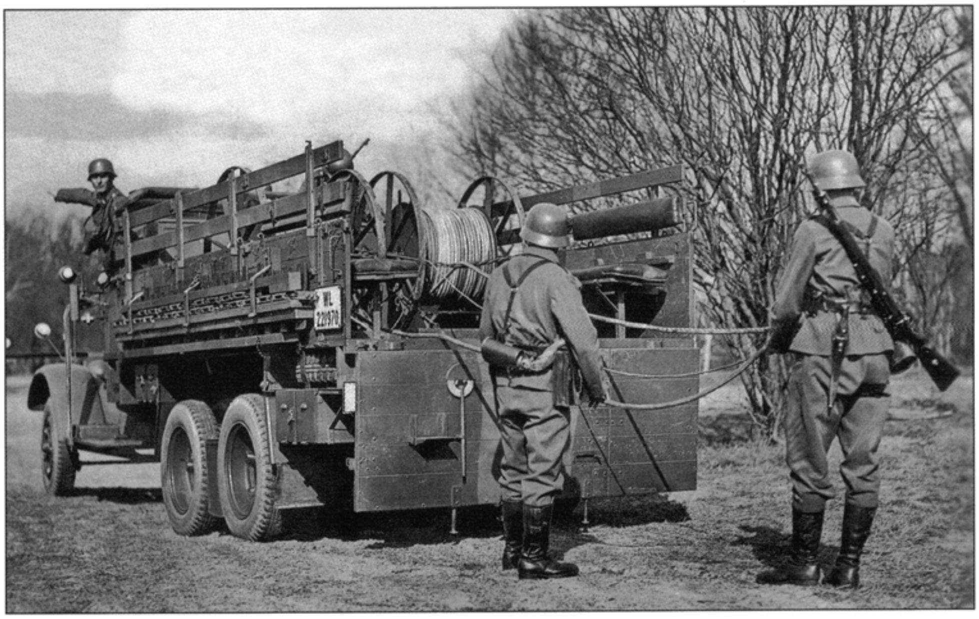


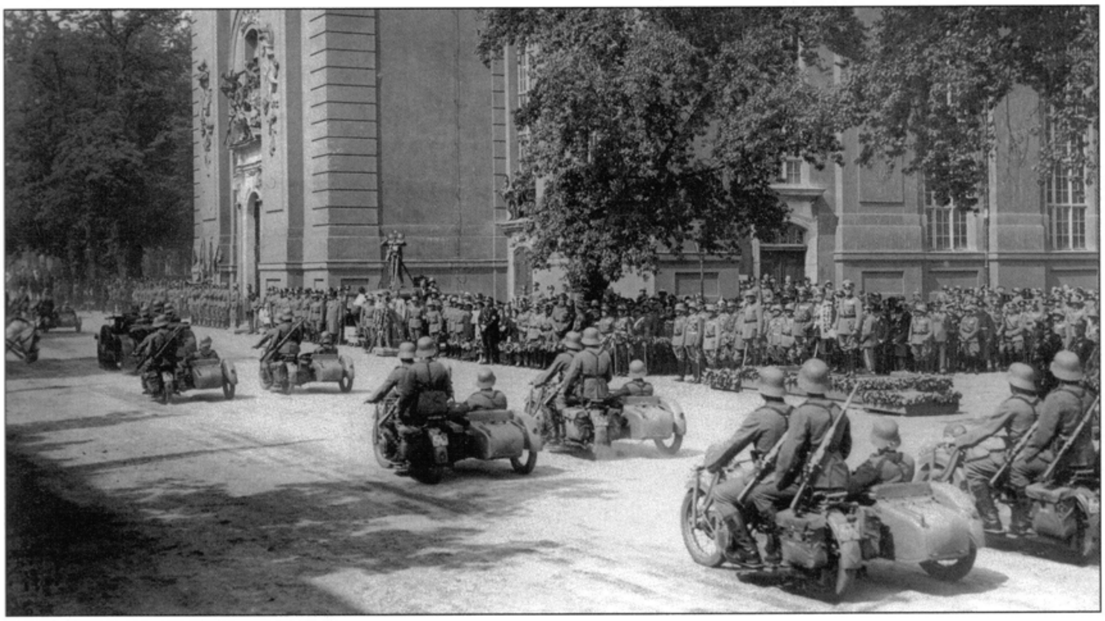
A Pz.Kpfw.I Ausf.A negotiates hilly terrain during field exercises. A total of 818 were produced from July 1934 to June 1936. It was never intended for combat and, despite its vulnerability, saw extensive action in Spain and Poland and was used in Denmark, Norway and North Africa.



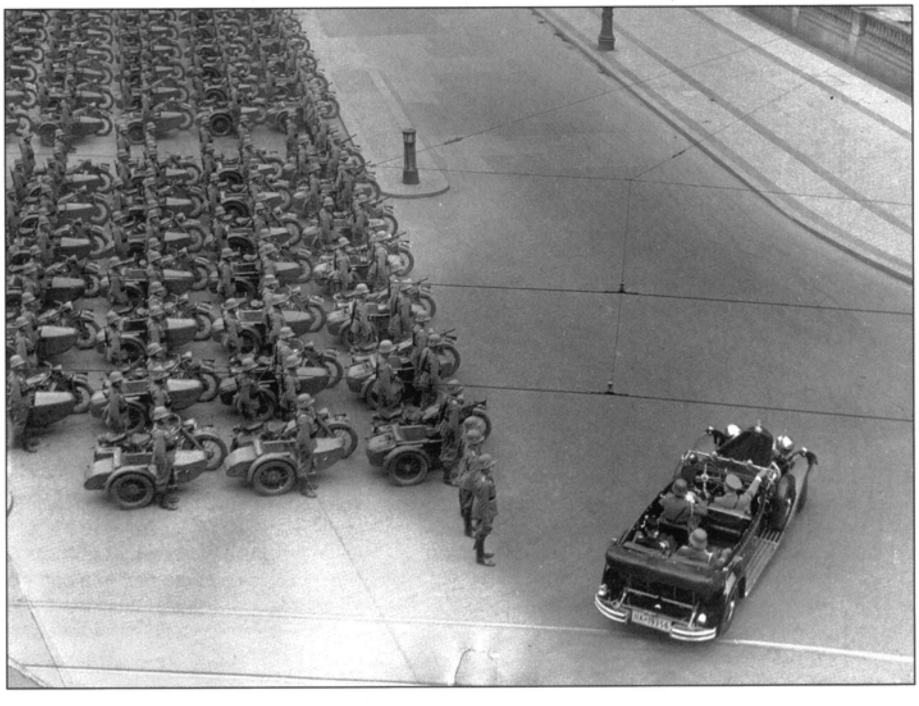
One of the few Fahrschulwannen prepared for training purposes by the Wehrmacht and turned over to the NSKK when they took over driver training during the war. This was a perfect assignment for these vehicles due to their low maintenance and operating costs. They were originally produced in this form by Krupp as agricultural tractors, called Landwirtschaftlicher Schlepper, to disguise their intended use. Interesting to note is the 'Steuermann' proficiency badge worn by the Unteroffizier instructor on the upper left sleeve of his tunic.

One of the more important problems faced by modern mobile armies in the 1930s were logistics and communications. To overcome these problems, adequate transportation facilities were required. During the war years, the German Army was plagued by lack of sufficient transportation. Here, a Henschel 33D1, equipped as a telephone cable vehicle belonging to a Luftwaffe unit, is involved in a field exercise. Judging by the early style of uniforms, the time would be about 1935 or 1936.



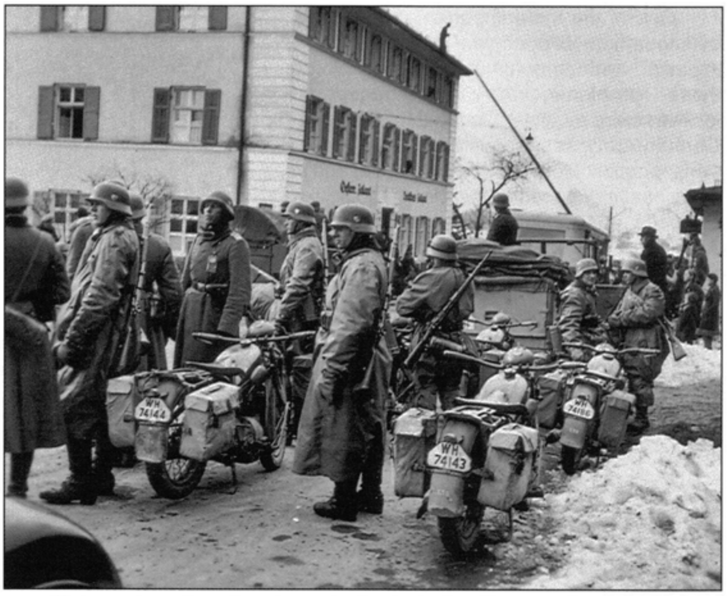


Motorcycle troops on their BMW R11 combinations, parade before Generaloberst von Blomberg and other dignitaries, in Potsdam on the 150th anniversary of the death of Frederick the Great, March 19, 1936. At this stage of Panzer-Division development, each Infantry Brigade had one motorcycle battalion organized into four companies which utilized almost half of the brigade's motorcycles.

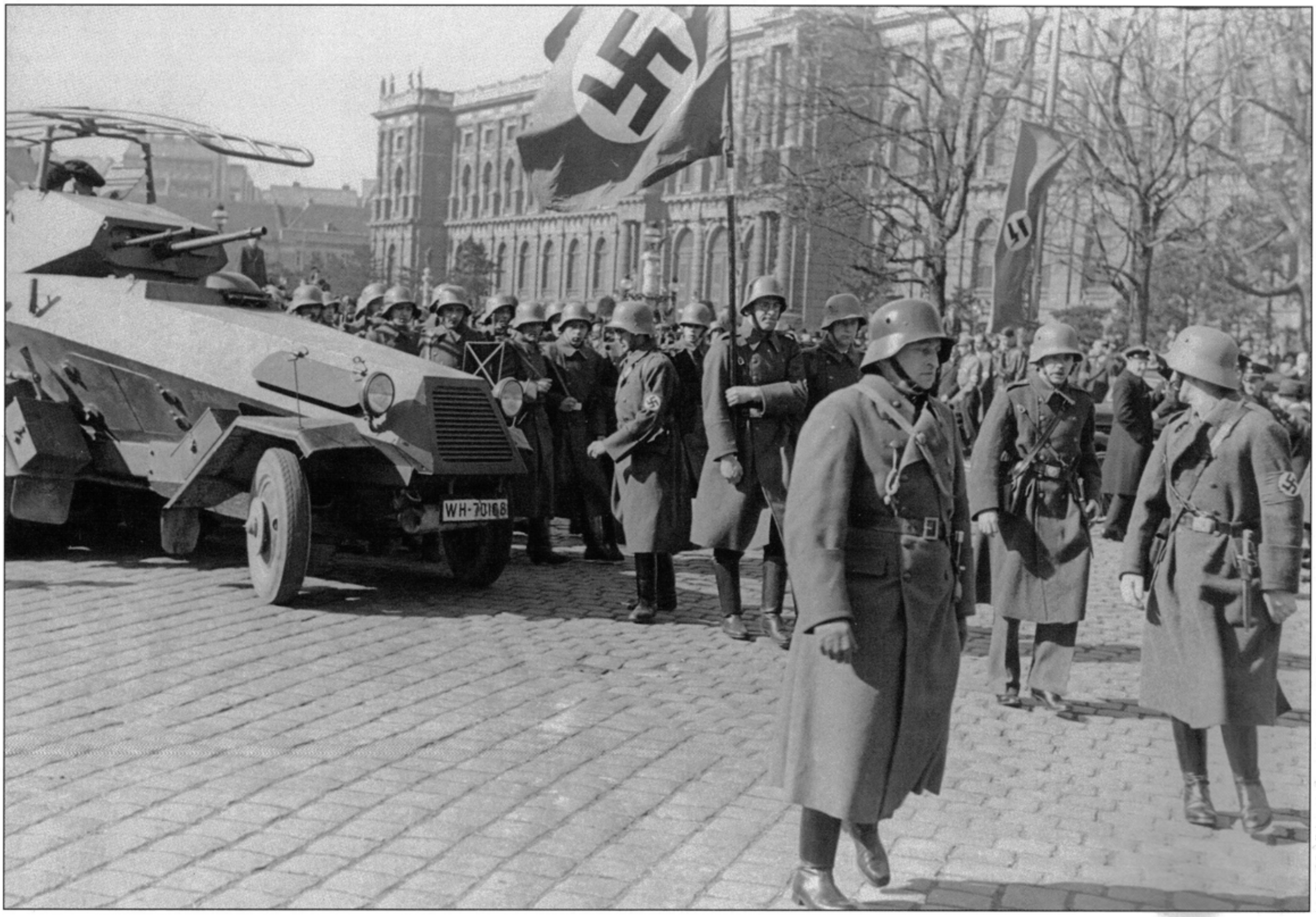


Straight lines of motorcycle combinations together with their crews, are saluted by Adolf Hitler during an inspection and parade held on the occasion of his birthday, which took place every year in Berlin. The sidecars are more luxurious civilian types which were later replaced by the more basic military pattern. There are a mixture of motorcycles visible including some BMW R11 and R61.

Motorcycles and light personnel cars assemble in a field after an exercise in June 1938. A motorized army required a large number of trained drivers, who, in those days were difficult to obtain because of the limited number of motor vehicles in civilian hands. The government and military therefore, had to establish facilities to train the men needed. Among the several types of motorcycles here are some BMW R35 solo machines.

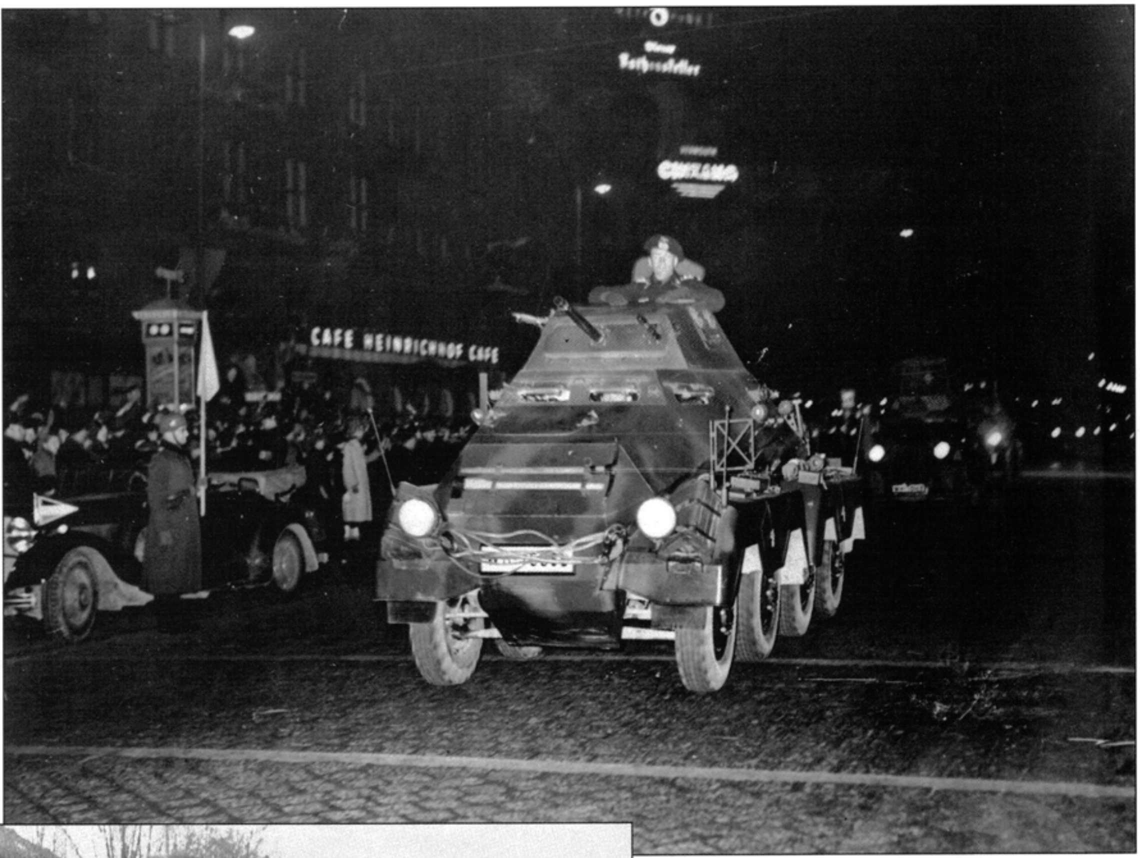


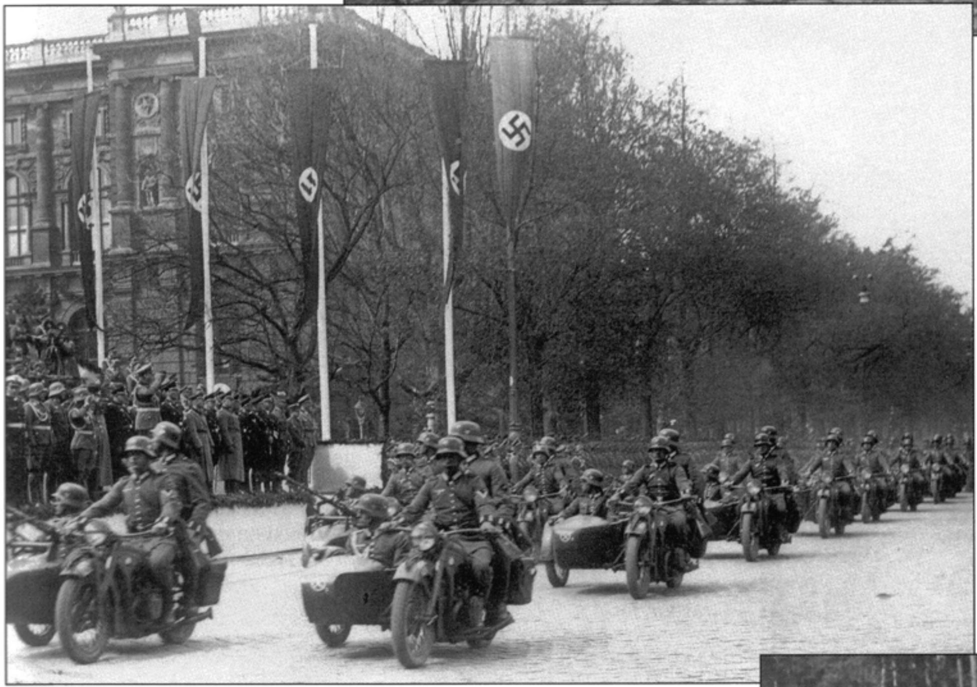
Motorcycles played an important role in the German Army in the late 1930s and the early part of the war and were employed on a mass scale. In 1939, the Panzer Divisions were authorized to be equipped with 1,269 motorcycles. Here, a motorcycle troop is seen during the Austrian Anschluss in March 1938. Again, the close sequence of the registration number plates shows the motorcycles were issued in groups to the divisions. The two in the foreground have the numbers ‘WH 74143’ and ‘WH 74144’ while the one in the background is ‘WH 74186’.



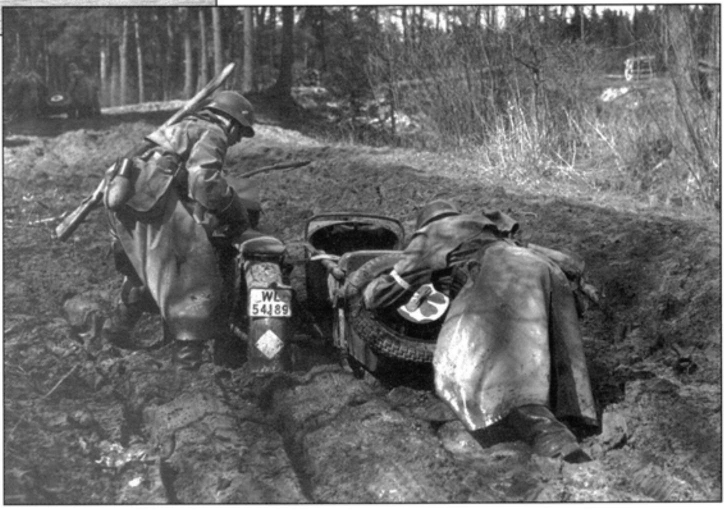
A schwere Panzerspähwagen (Fu) (Sd.Kfz.232) of 2.Panzer-Division takes part in a parade in Vienna in the spring of 1938. One of the earliest armored cars of this type, 123 were manufactured from 1932 to 1937 in this and the standard Sd.Kfz.231 variation. The Sd.Kfz.232 can be identified by the large frame antenna that pivoted above the turret. The Sd.Kfz.263 was similar except that it had a fixed turret with a single MG13 and the shape of the antenna was different, being supported by two legs directly off the turret. Typical for prewar vehicles, no national markings have been applied and only the standard license number plate, ‘WH-70168’, is visible.

A column of a reconnaissance troop parades before the citizens of Vienna on the first night of the Nazi occupation of Austria, March 1938. The leading vehicle is a new schwere Panzerspähwagen (Sd.Kfz.231) 8-Rad, which started to replace the older Sd.Kfz.231 6-Rad as the standard heavy armored car of the German reconnaissance units in 1936. At this time, there was normally one platoon with six of these vehicles in each company. This one belongs to 2.Panzer-Division and displays no markings other than the vehicle license number and is finished in overall dark gray with a camouflage pattern consisting of dark green spots. The staff car visible to the left is carrying a command pennant for a Panzer-Division on its left mudguard.

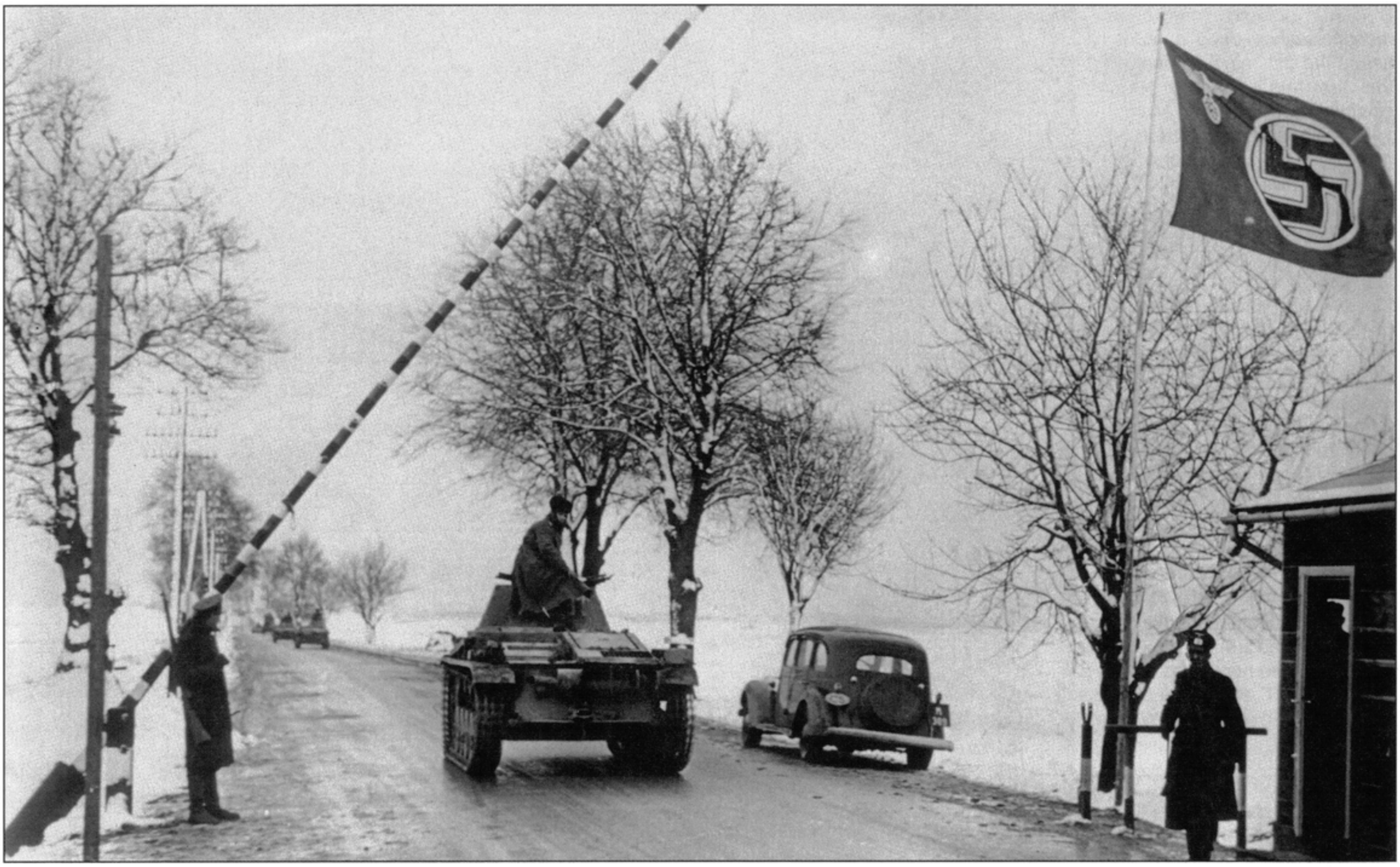




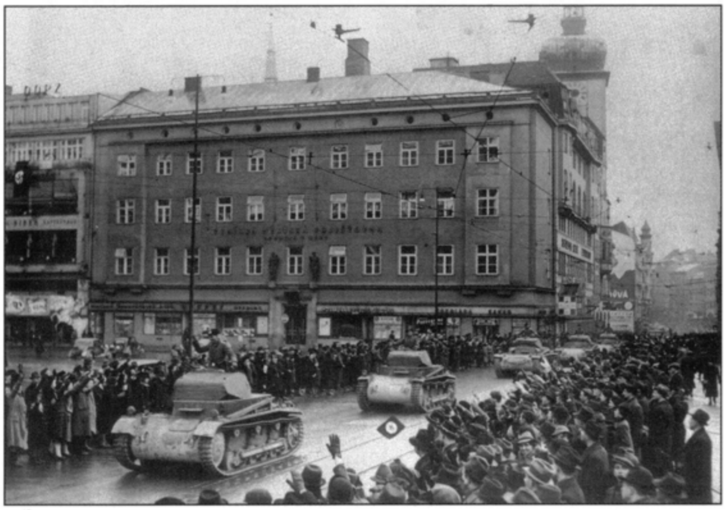
A long column of BMW R12 motorcycle combinations parade before General Wilhelm List in Vienna on April 20, 1938 on the occasion of Hitler's birthday. The men are wearing their parade dress uniforms with the dark green cuffs and facing patches. Visible on the front of the sidecars is the white tactical sign of a motorcycle company.



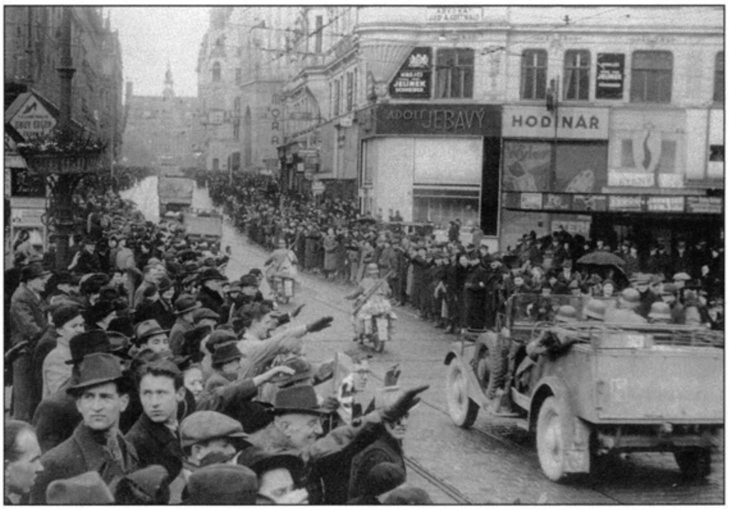
A Luftwaffe motorcycle crew struggle to free their machine from a muddy forest track in southern Germany or Austria in late 1938. The German Army would encounter conditions much like this throughout the Soviet Union in the coming battles. The motorcycle, possibly a BMW R35, displays the license number, 'WL 54189', on an early style rectangular plate and a unit emblem, a green four-leaf clover, is displayed on the rear of the sidecars spare wheel.



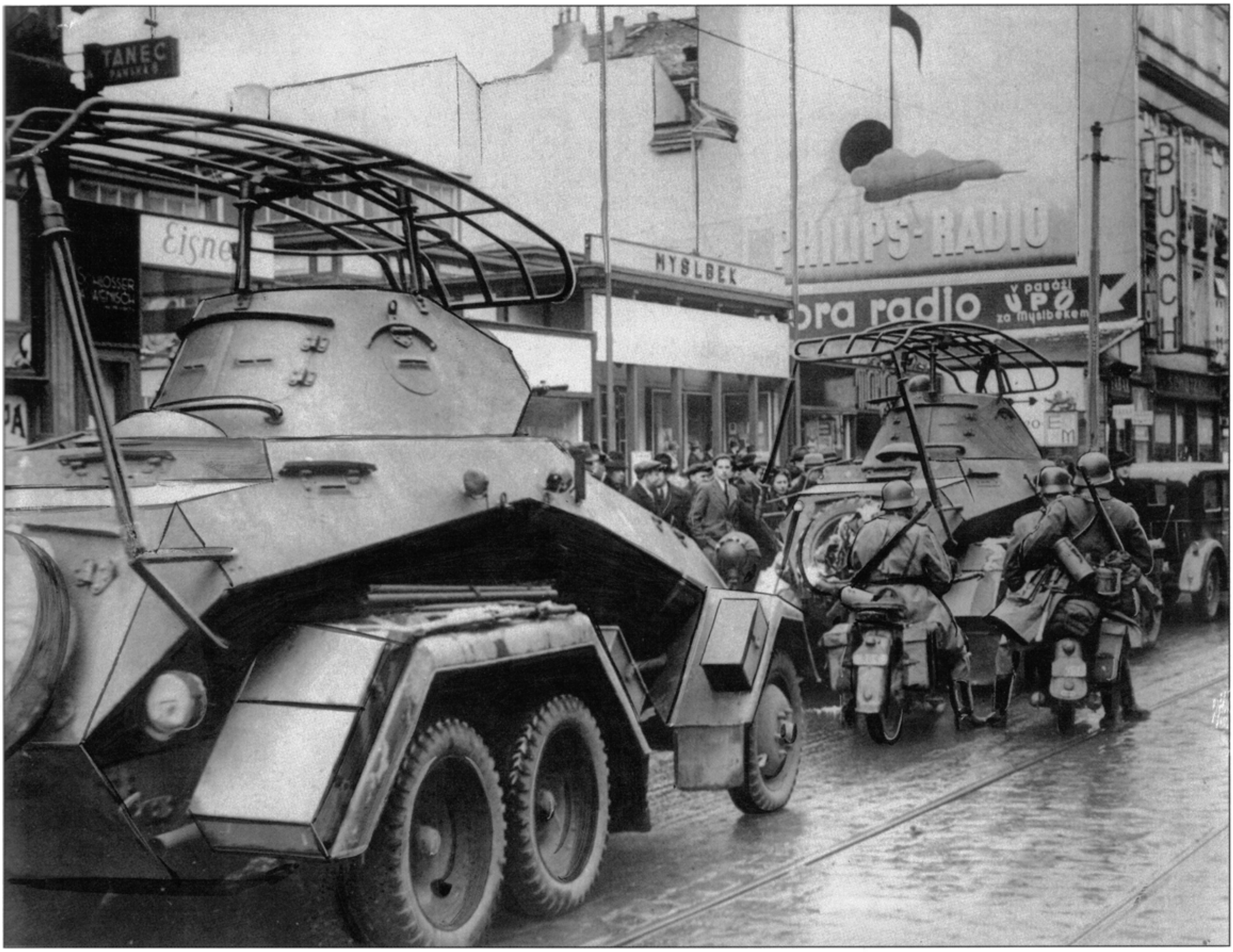
A Pz.Kpfw.II Ausf.A-C crosses the border from Germany into the Sudetenland during the winter of 1938-39. The organization of a leichte Panzerkompanie of October 1, 1938, provided for three platoons of 5 Pz.Kpfw.I and one platoon of 5 Pz.Kpfw.II.



A column of Pz.Kpfw.II Ausf.b, greeted by jubilant ethnic Germans, enter the city of Brno, Czechoslovakia on March 15, 1939. Rarely seen in action, only 100 of the Pz.Kpfw.II Ausf.a and Ausf.b were built from May 1936 to March 1937. Here, the censor has been hard at work, removing the guns from this photo. Interestingly, there is a large marquee in the background, of a cowboy on a rearing horse, advertising a Gary Cooper western movie.



A Horch 830 B1 (Kfz.15) and motorcycle troops of the same unit in Brno, Czechoslovakia, March 15, 1939. Newsreels and photos of the motorized columns of the German Army taken during the Austrian Anschluss and the march into the Sudetenland and Czechoslovakia, shocked the world. In truth, the situation was quite different. All the motorized divisions were in short supply of equipment of all types including soft-skinned and armored vehicles. In addition, the divisional staffs were not yet experienced in the command and organization of such large scale movements.


TANEC
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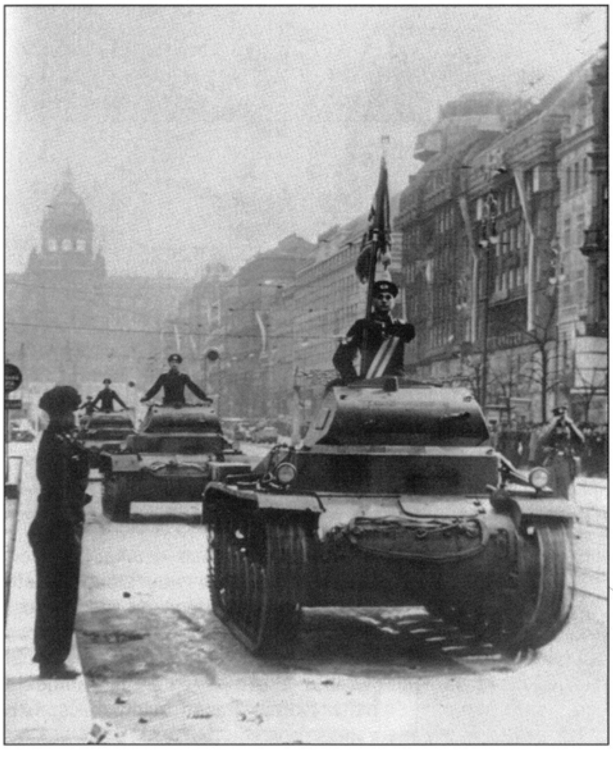
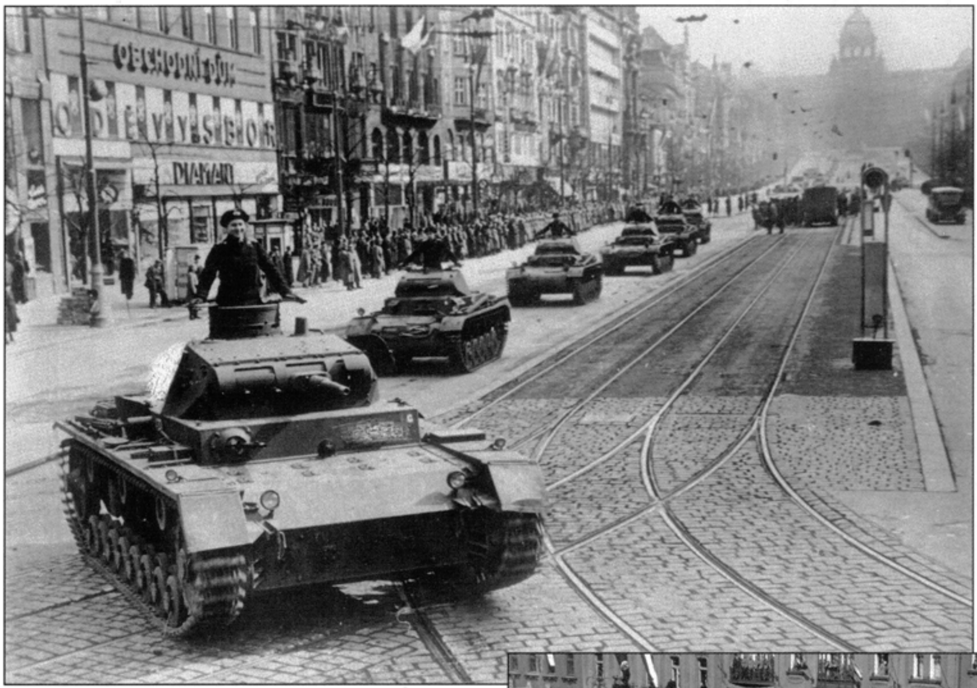
MYSLBEK
PHILIPS-RADIO
ora radio
V pasáži UPO za Myslbekem
BUSCH

Reconnaissance troops of a Panzer-Division enter Prague, Czechoslovakia on March 15, 1939. Both vehicles seen here are schwere Panzerspähwagen (Fu) (Sd.Kfz.232) 6-Rad. The vehicle was equipped with a rear facing steering wheel and the visors on the rear allowed the car to be driven in reverse should enemy forces be encountered.

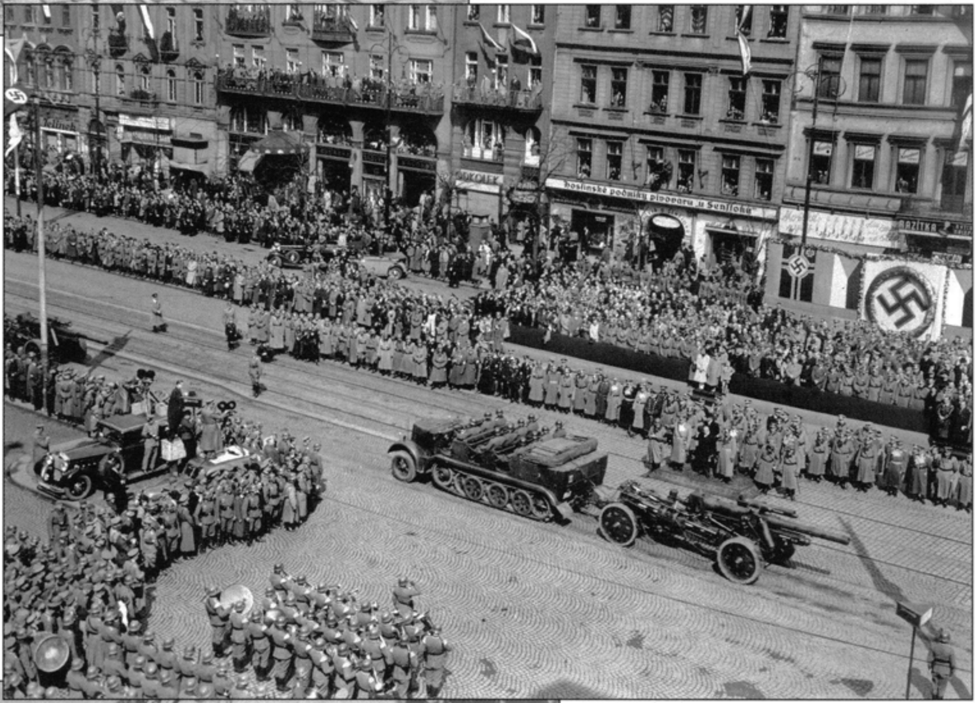


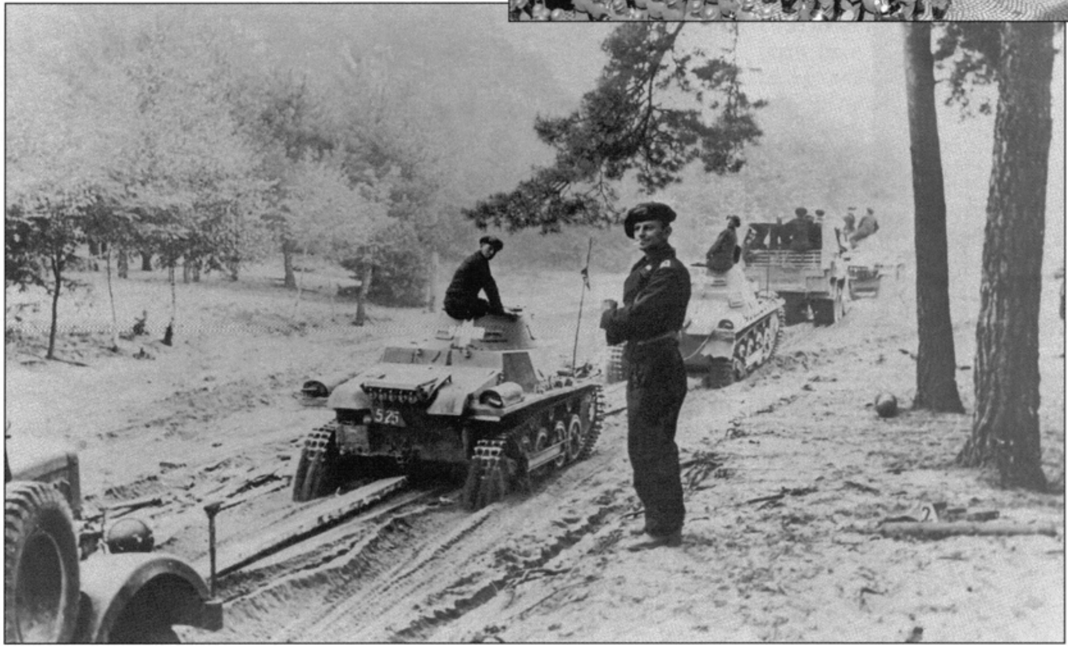
Parade of the German Panzerwaffe through Wenceslas Square in Prague, Czechoslovakia, celebrating the capture of the city on March 16, 1939. This column of Pz.Kpfw.II Ausf.c-C, is led by a vehicle commander carrying the regimental standard. He is wearing the standard bearers' armshield on his right sleeve.



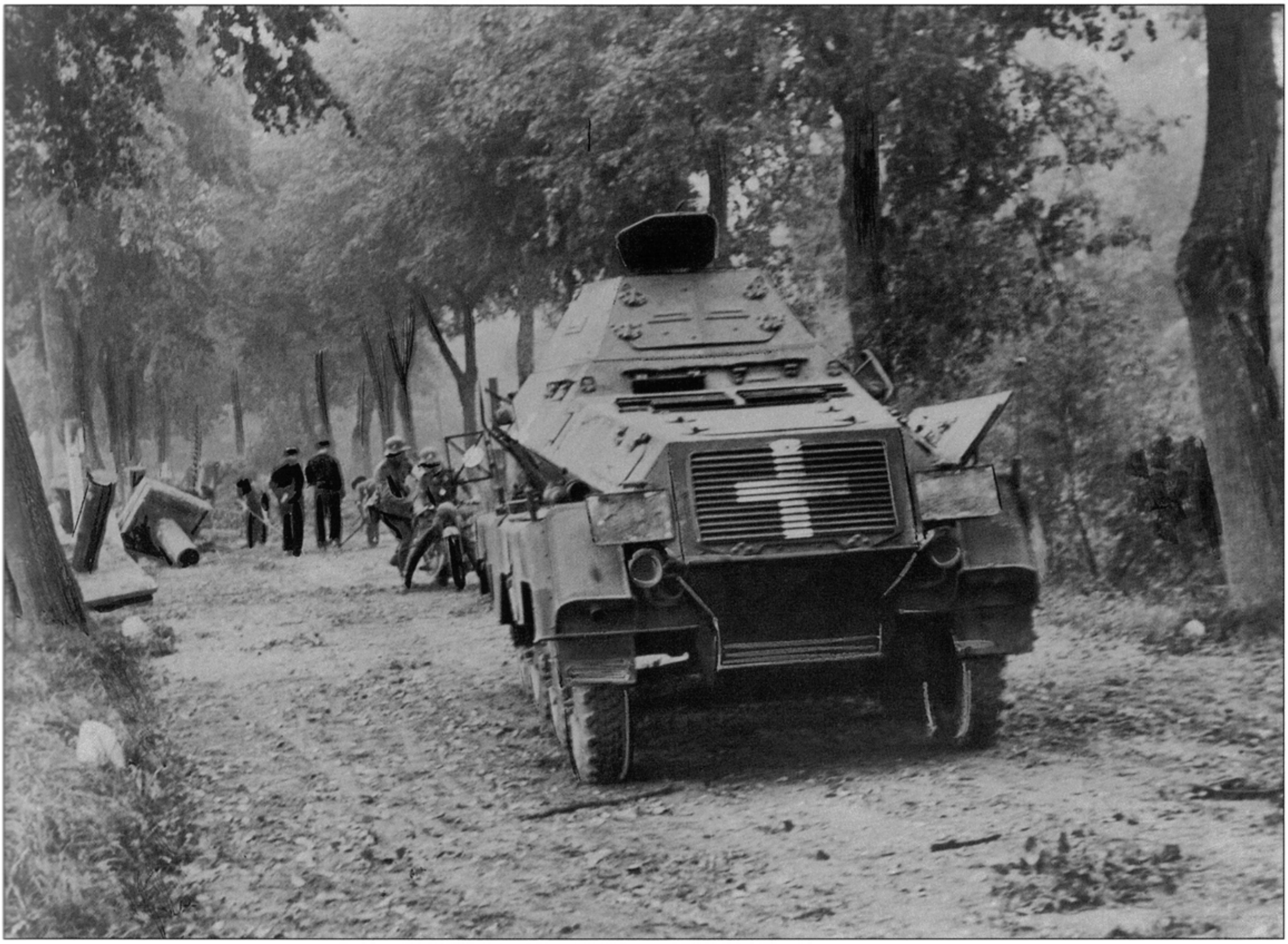
A column of Pz.Kpfw.II Ausf.c-C being led out of Wenceslas Square in Prague by a rare Pz.Kpfw.III Ausf.B/C. Only 15 of each were produced in 1937-38. They differed from the earlier Ausf.A mainly in the suspension and rear hull details and were removed from combat in February 1940 because of their inadequate suspension and armor. Curiously, the censor has obscured the driver's visor.

A battery of 15cm sFH18 howitzers towed by Sd.Kfz.7 half-track prime movers rolls past the assembly of high ranking German officers and dignitaries and throngs of civilian observers in Prague on March 16, 1939. In the foreground is the Wehrmacht regimental band along with the newsreel cameramen of the Propaganda Kompanie.

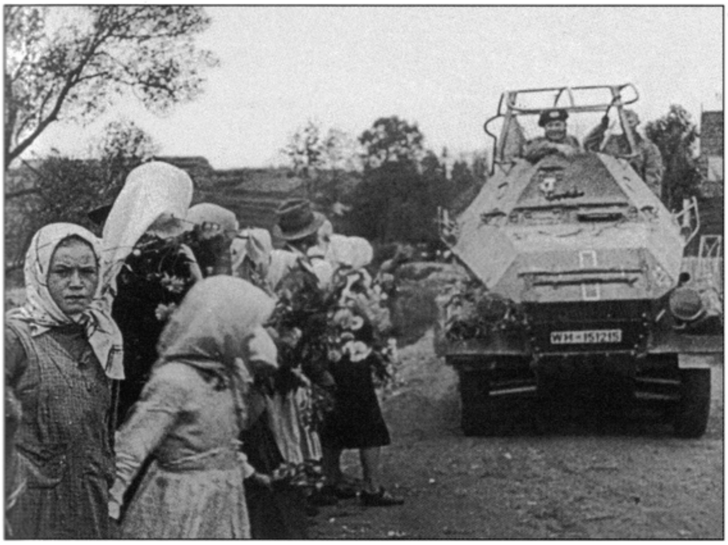




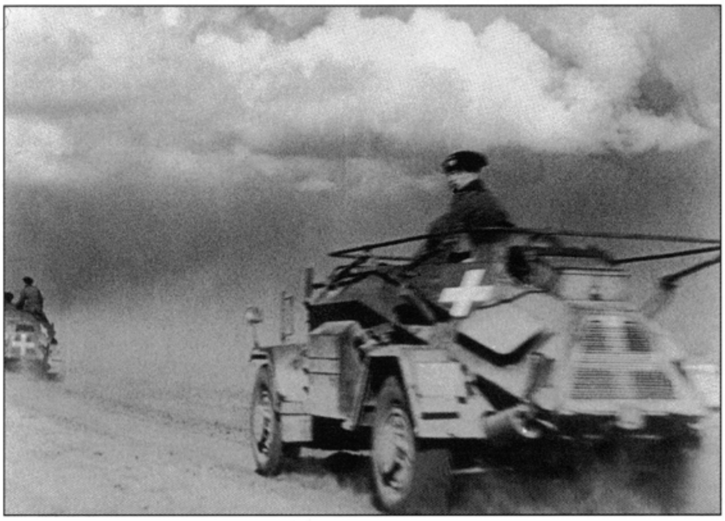
When the Germans invaded Poland on September 1, 1939, their armored power was very limited. Of 3,472 tanks of all types available, only 309 were Pz.Kpfw.III or Pz.Kpfw.IV. The rest were the obsolete Pz.Kpfw.I, Pz.Kpfw.35(t) and 38(t) and Pz.Kpfw.II. The majority of the losses suffered were from mechanical breakdowns and minor damage. Here, a column of Pz.Kpfw.I Ausf.A led by a Pz.Kpfw.II and accompanied by some transport trucks, make their way along a soft, sandy road. Markings on the nearest Pz.Kpfw.I include a white national cross on the rear of the turret and the tactical number '525' on a small rhomboid metal plate attached below the smoke candle rack.



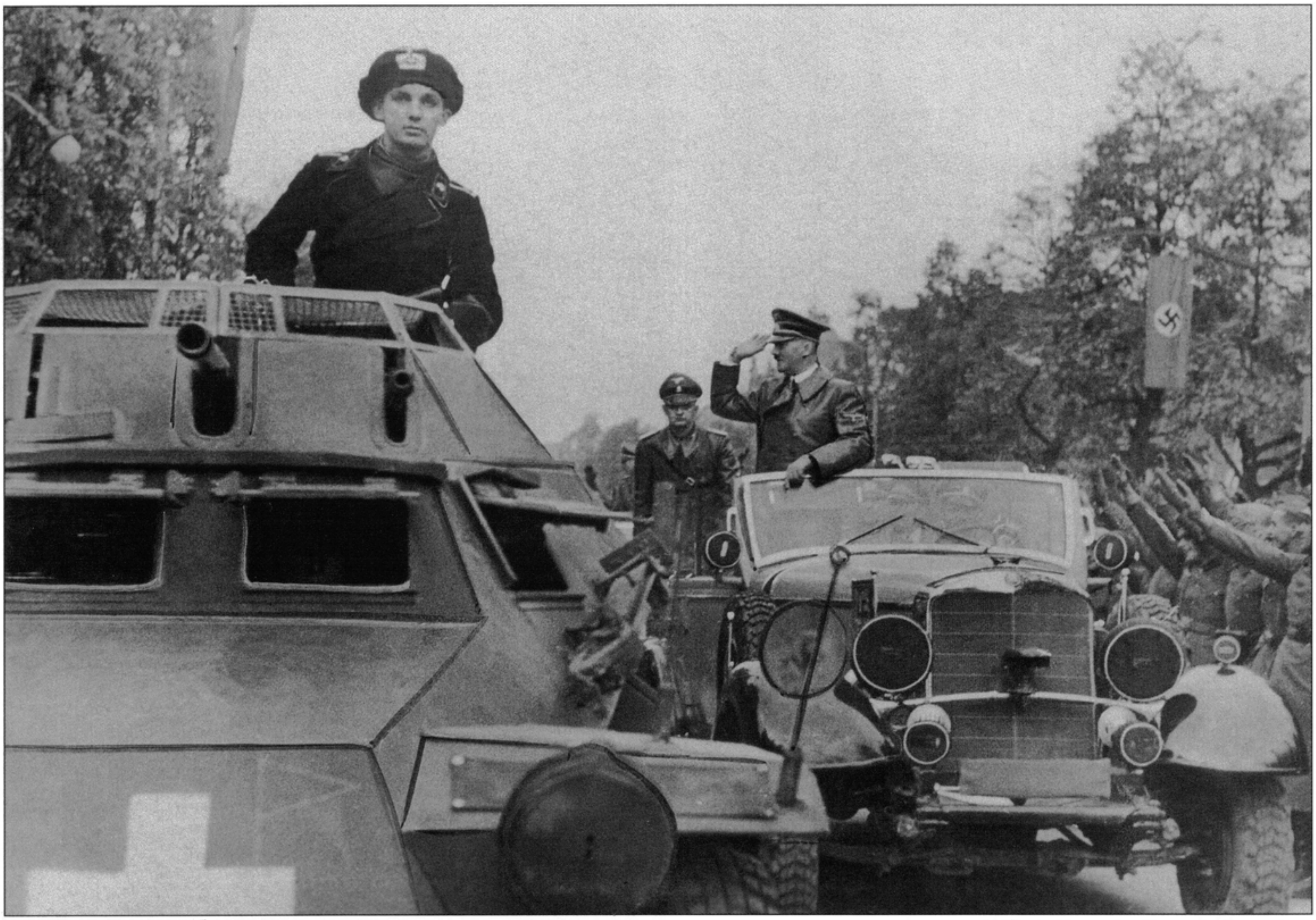
This retouched photograph shows German troops clearing away anti-tank obstacles placed across the road under the cover of a schwere Panzerspähwagen (Sd.Kfz.231) 8-Rad. It was the standard heavy armored car for the reconnaissance battalions in all of the Panzer-Divisions. The vehicle could be easily driven in two directions - forward and backward - because it was equipped with two sets of steering controls. The vehicle was long and heavy, so two sets of controls were necessary to allow the crew to retire in the opposite direction quickly if needed along narrow country roads. The only marking left by the censor is the white national cross painted on the rear of the car.



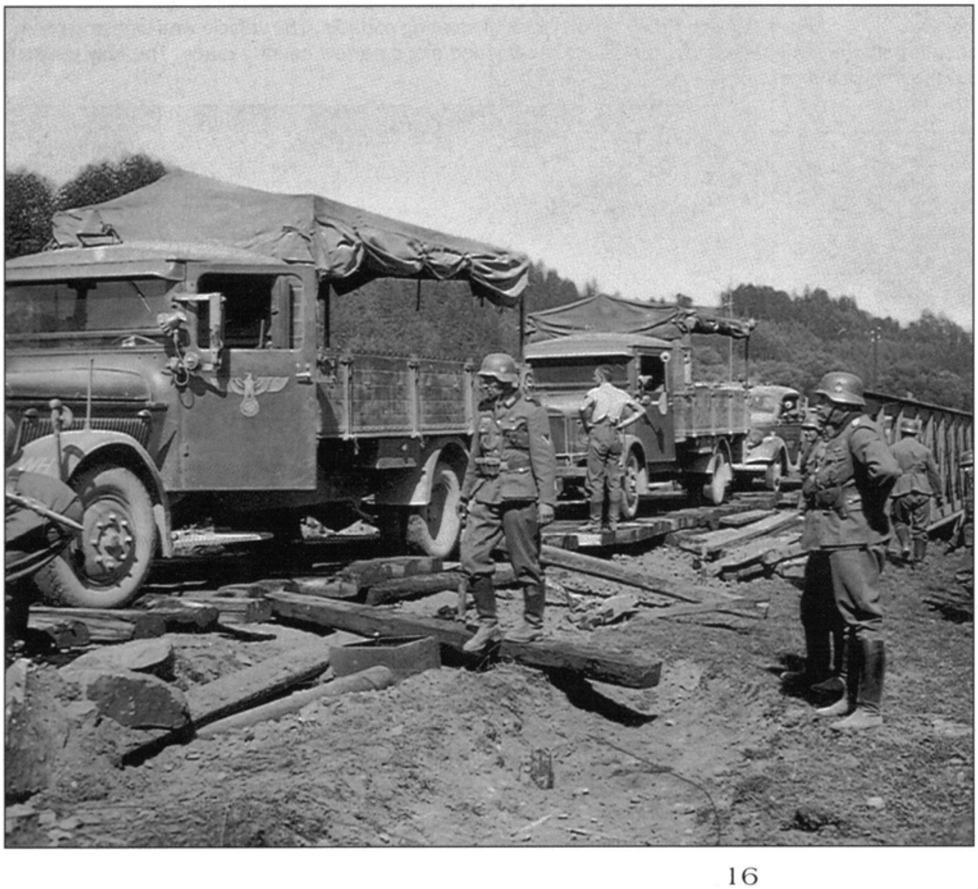
A Panzerfunkwagen (Sd.Kfz.263) 8-Rad is greeted by ethnic Germans in a Polish village in September 1939. The vehicle is typically marked for this period with a white national cross, the center of which has been painted in with dark gray, the tactical marking for a motorized reconnaissance company and the standard Wehrmacht vehicle registration number plate with 'WH-151215' painted in black. The Sd.Kfz.263 was one of the newest armored cars in the Panzerwaffe having entered service in 1938.



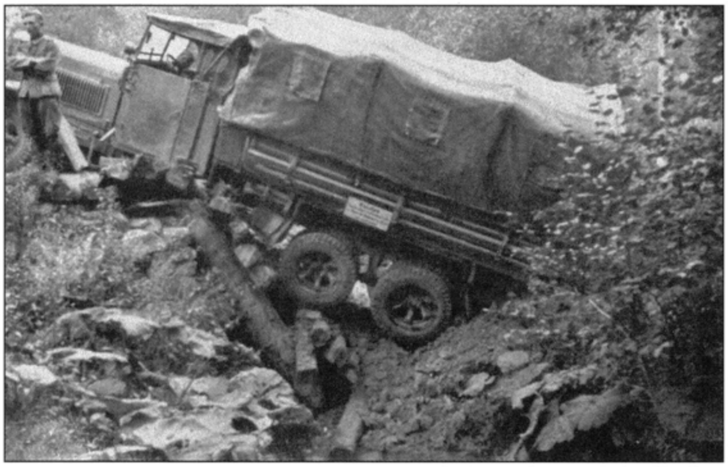
The light four wheeled armored cars of the Sd.Kfz.221-223 series were more common. They were fast and maneuverable with good cross country performance and were easy to service. Here we see a leichte Panzerspähwagen (Fu) (Sd.Kfz.223), identifiable by its folded down frame antenna, traveling at high speed down a dusty country road in Poland in late September 1939. Markings include a white national cross painted on the side of the hull and rear radiator grille. Though not clear in the photo, it also has the standard Wehrmacht vehicle registration plate mounted on both rear mudguards.



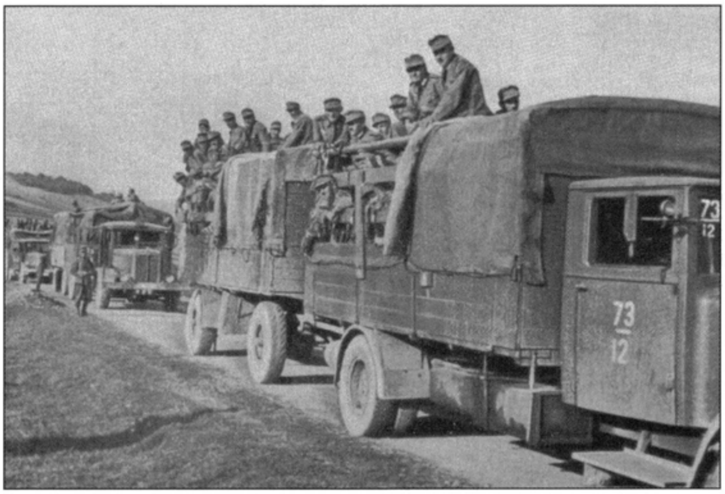
A leichte Panzerspähwagen (Sd.Kfz.222), possibly the best known German armored car, guards the passage of Hitler's Mercedes-Benz G4 limousine, probably in Warsaw, after the capture of the city on September 28, 1939. The white national cross painted on the front of the armored car has been painted over part of the tactical sign of the unit.



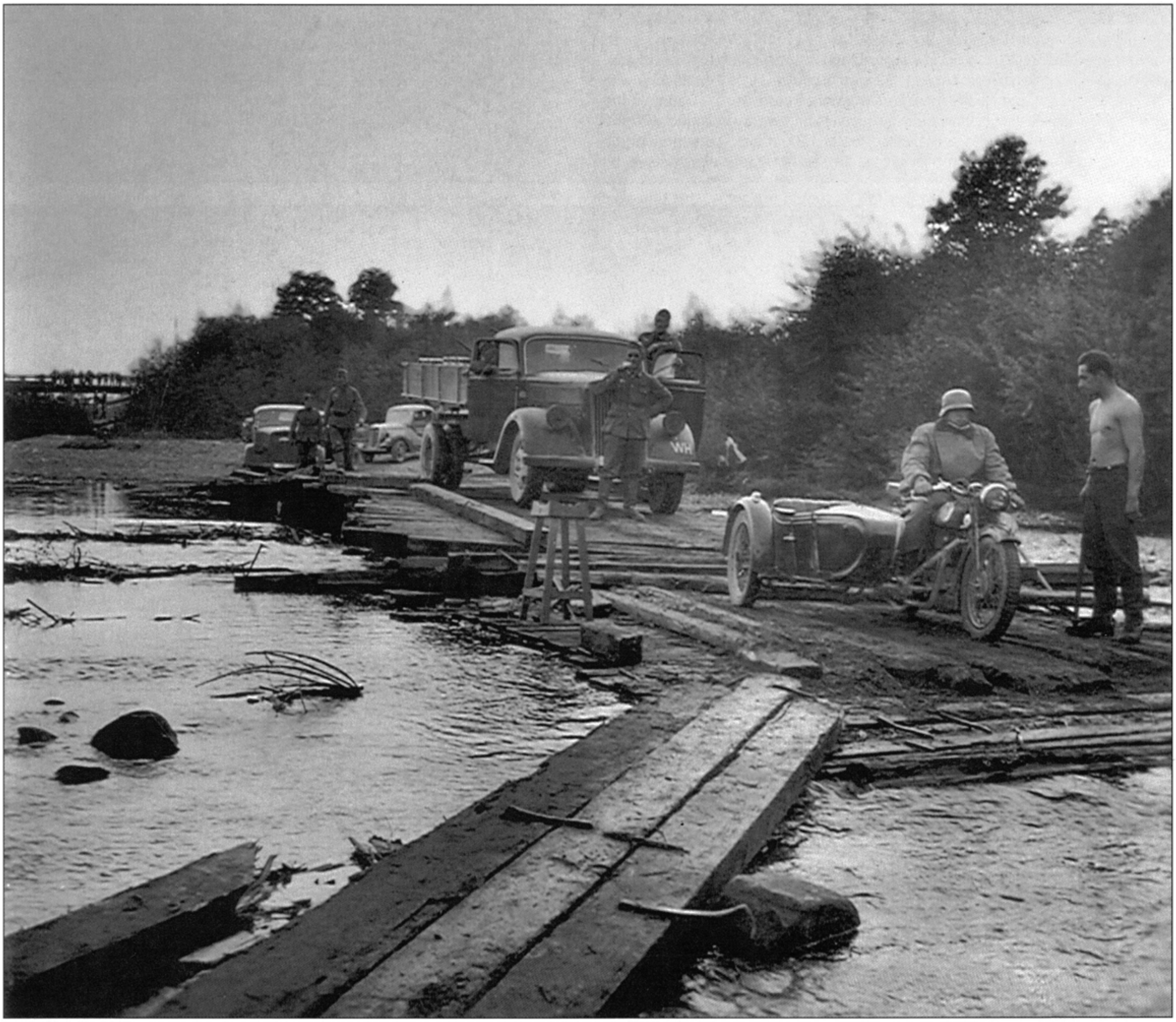
During the fighting in Poland, the Germans encountered for the first time the very real problems created by the passage of thousands of heavy vehicles over poor roads and bridges. While the armored vehicles and infantry could bypass damaged sections, the wheeled transport had to wait while repairs could be made. Here a pair of Magirus trucks await road repairs after crossing a small bridge.



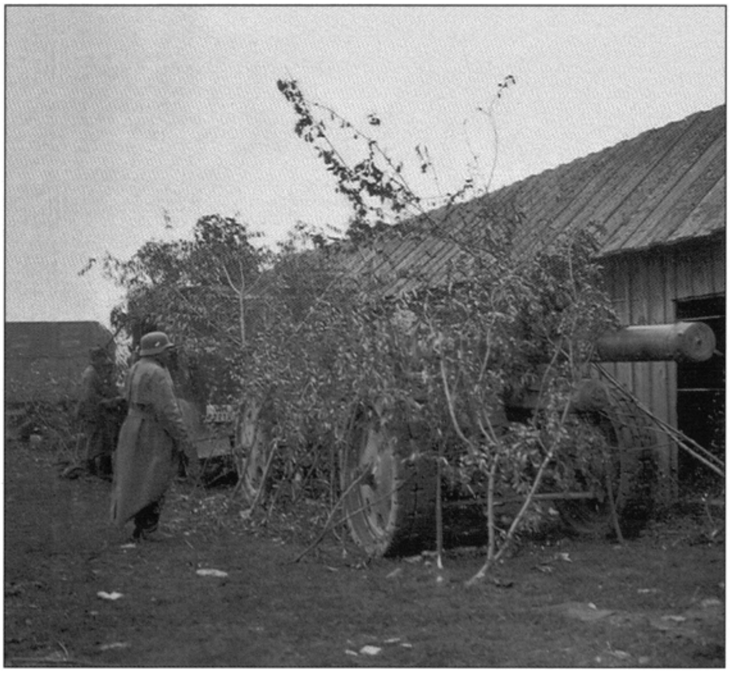
A primitive bridge has collapsed under the weight of this Henschel 33D1 truck. The roads in Poland were mainly constructed for horse drawn transport and such occurrences were not uncommon during the German Army's advance.



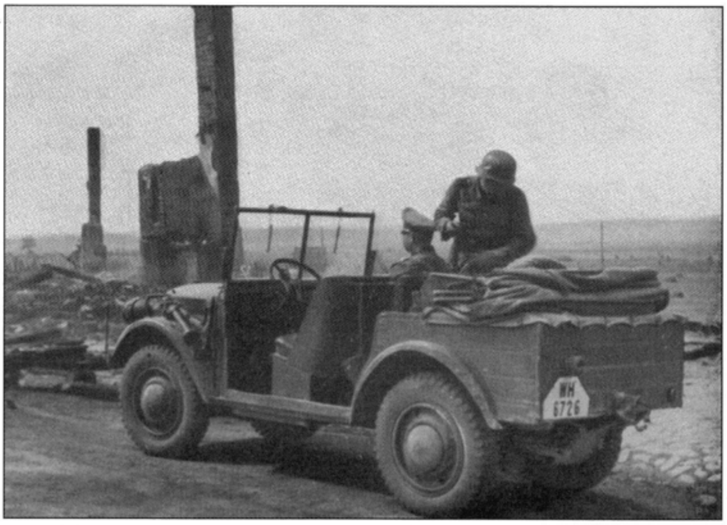
Lack of military transport in all the German divisions often forced commanders to use trucks borrowed from supply companies. Here, soldiers are transported in lorries towing trailers. The second vehicle is a Bussing NAG 6500 which is towing a 5-t trailer. The meaning of the numbers '73/12' on the first truck are unknown.



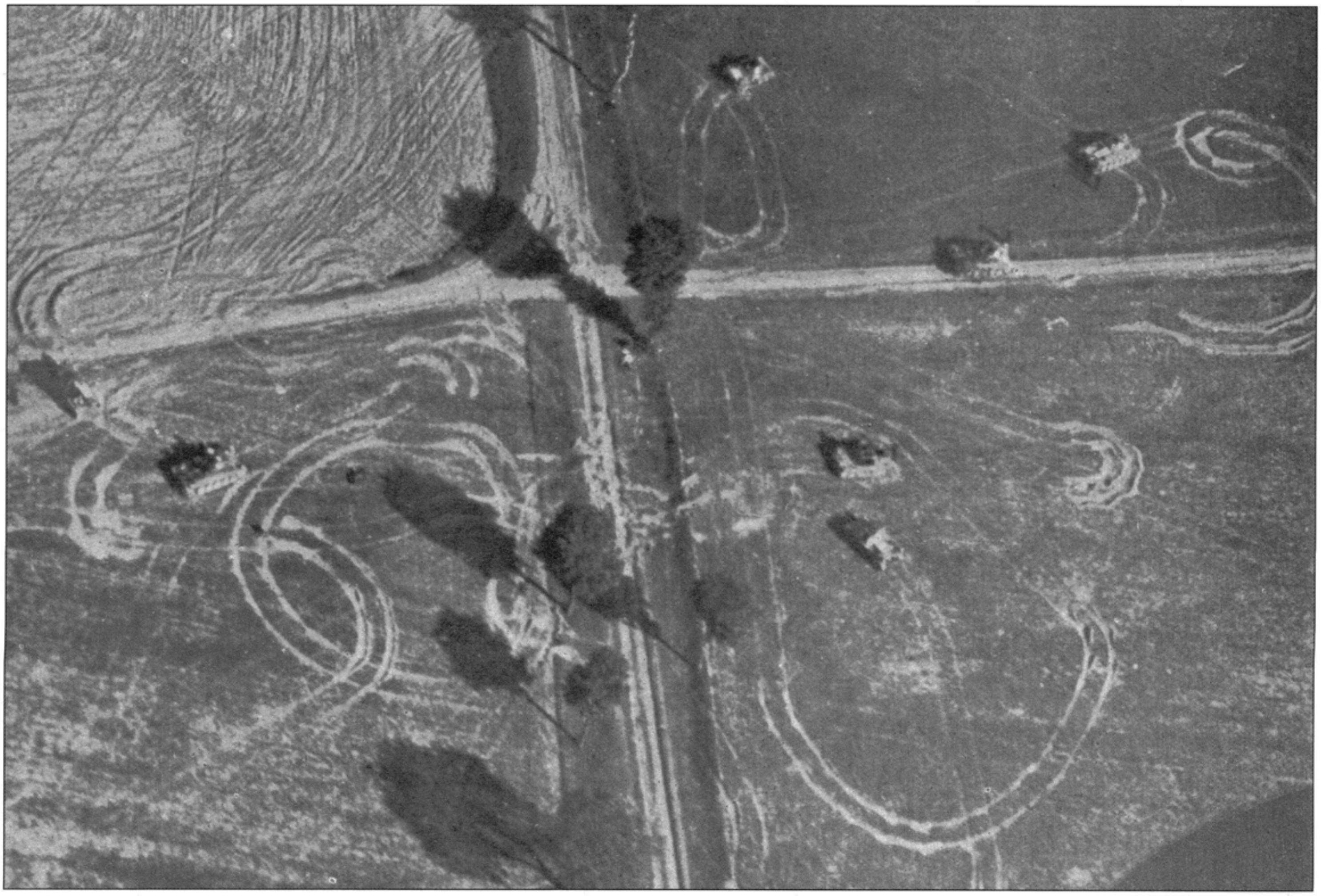
German vehicles cross a shallow stream over an improvised bridge. The heavily dressed motorcyclist provides a stark contrast to the soldier standing beside him without a shirt. Following behind are an Opel Blitz 3-ton truck and some staff cars.



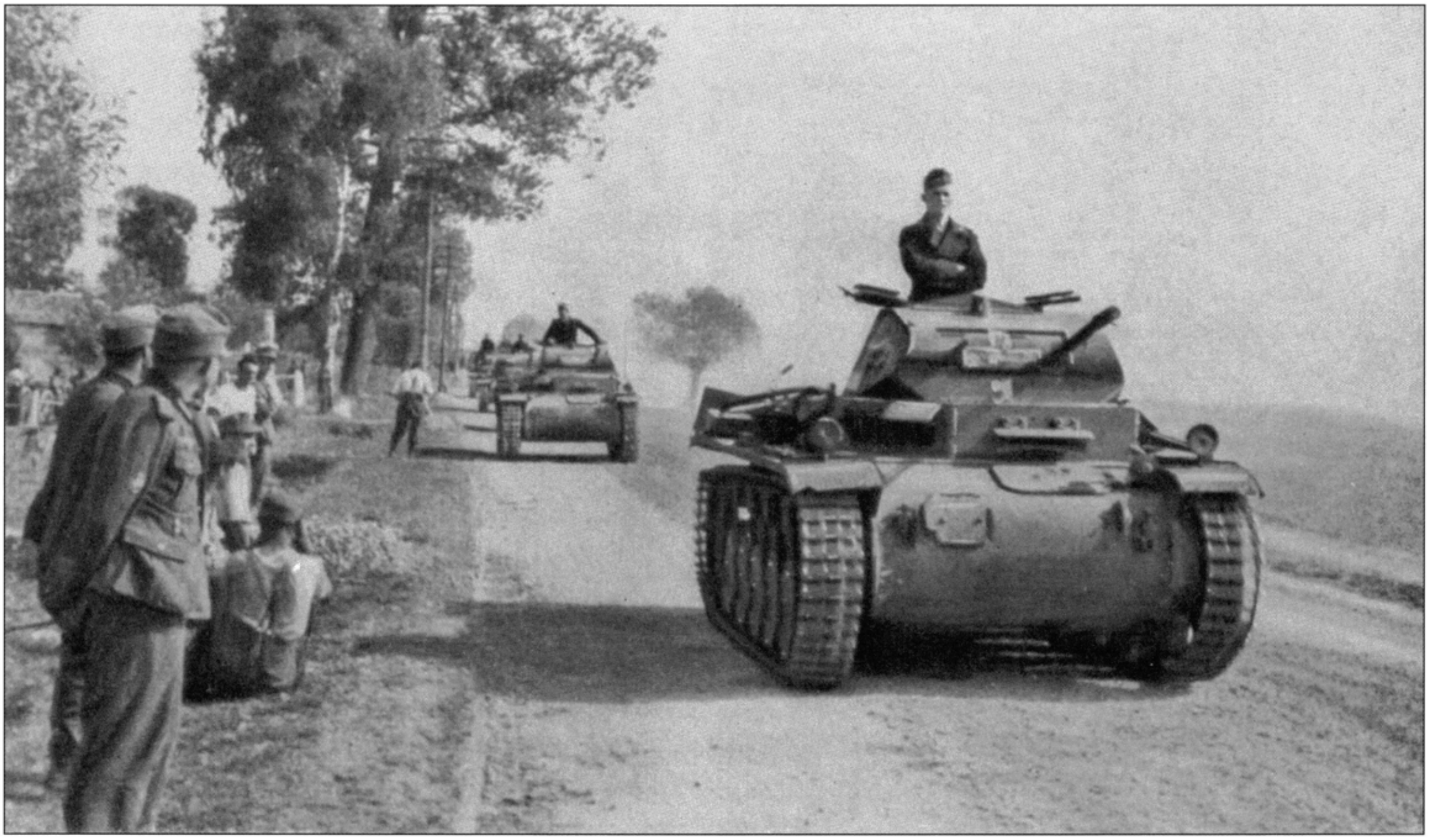
This half-track prime mover towing a 15cm sFH18 is so well camouflaged with foliage that it is impossible to recognize the type of vehicle. The divisional artillery regiment in 1939 was organized into 2 battalions with 3 batteries of light and heavy howitzers in each. There were 24 guns in the standard Panzer-Division, however, a few divisions were equipped with the 10.5cm lFH18 only. There were also about 150 trucks, cars and prime movers, but - again - in some divisions all the howitzers were towed by trucks.



A light cross-country personnel car, Kfz.2 or 3, used by the staff troop at the platoon or company level, seen here in Poland in September 1939. This vehicle seems to have had the doors permanently removed as the pillar dividing them is missing.

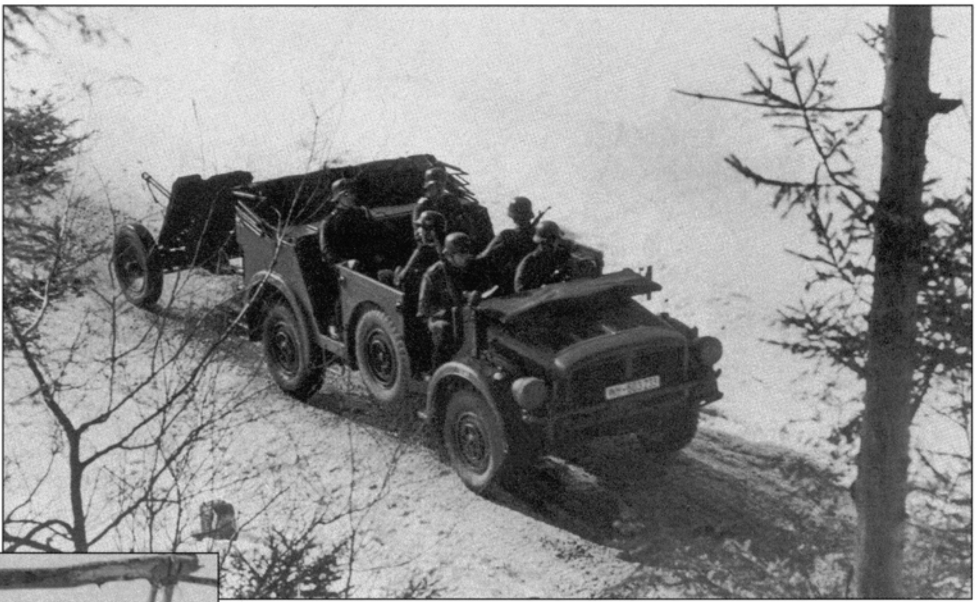


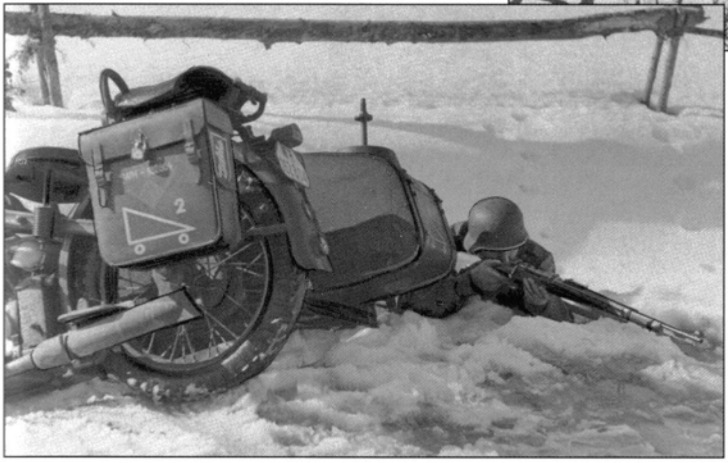
An aerial view of the battlefield below clearly showing the exact position of seven different German vehicles. This photo shows how easy it would be for aircraft to spot and then destroy them individually, even if camouflaged. Though not clear, it appears, judging by the roadwheels, that three of them are probably Pz.Kpfw.II.



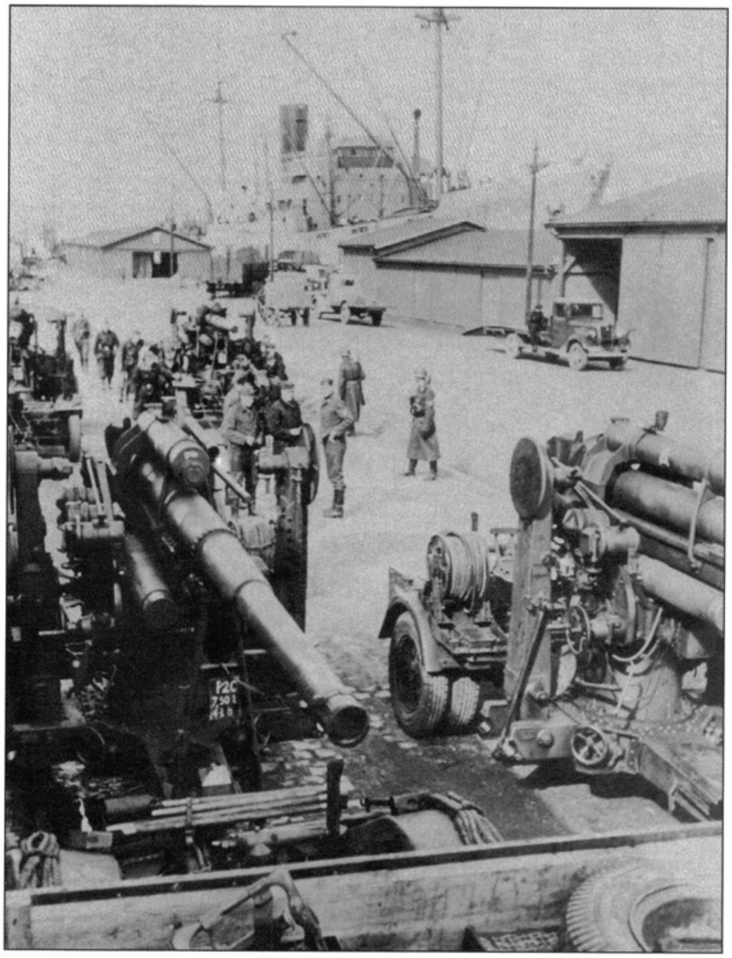
The battle over, these Pz.Kpfw.II Ausf.c-C head back to Germany for refitting and rest. After the defeat of Poland, the Pz.Kpfw.II was improved with additional 20mm armor plate on the front hull and turret. The white national cross that was painted on the front of this vehicle's turret has had mud or paint applied to make it less conspicuous to Polish anti-tank gunners.

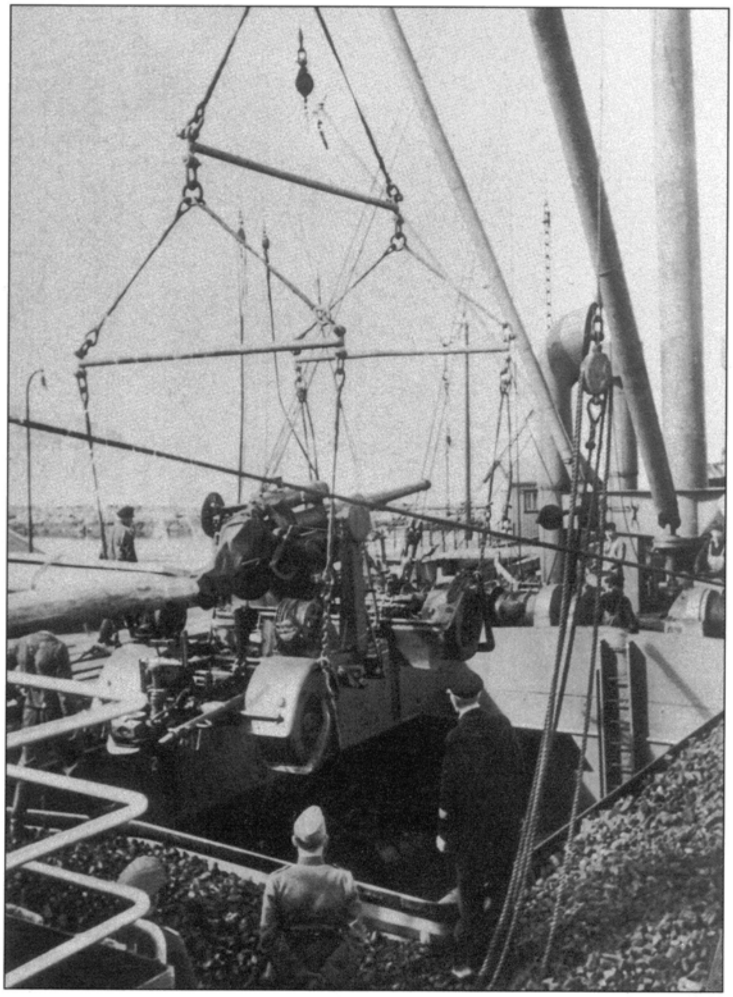
A Horch Kfz.69 heavy personnel car, seen here towing a 3.7cm PaK35/36 anti-tank gun in the winter of 1939-40. It was a rugged vehicle and performed many duties within the Panzer and Infantry Divisions. This one is finished in its dark gray base with no visible markings other than the vehicle registration plate.



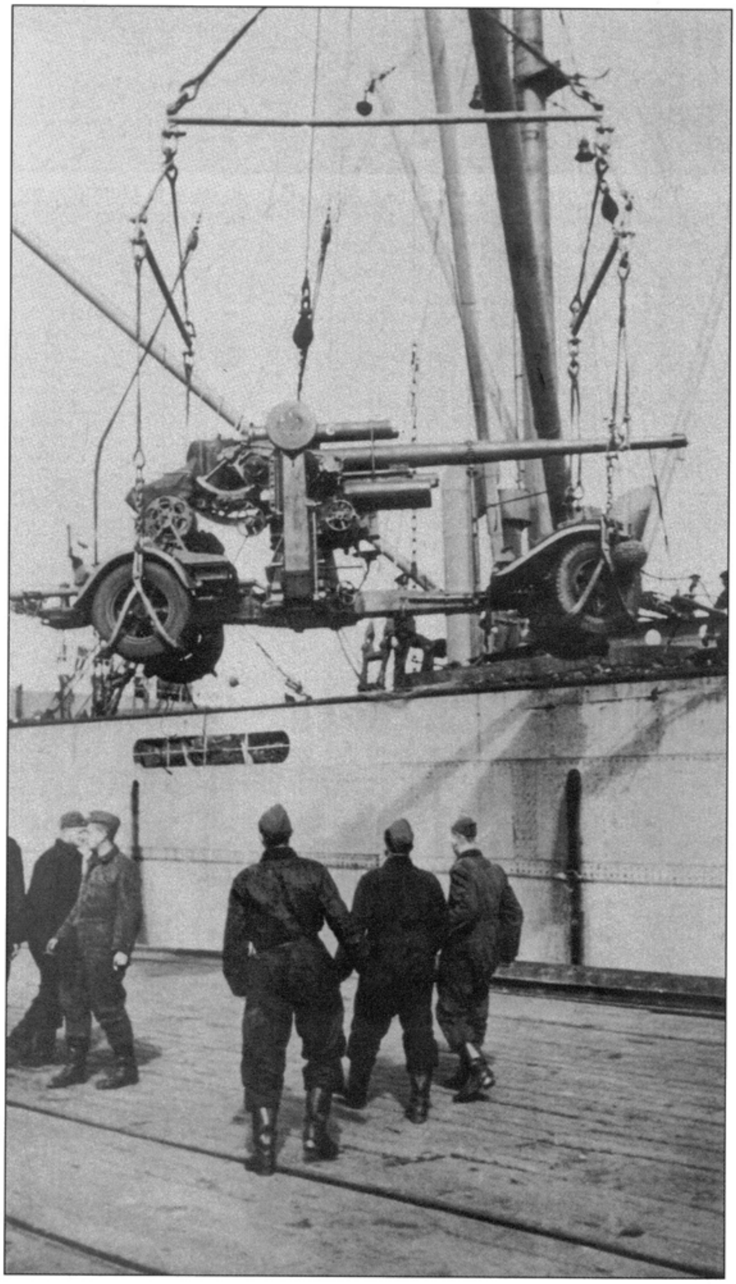


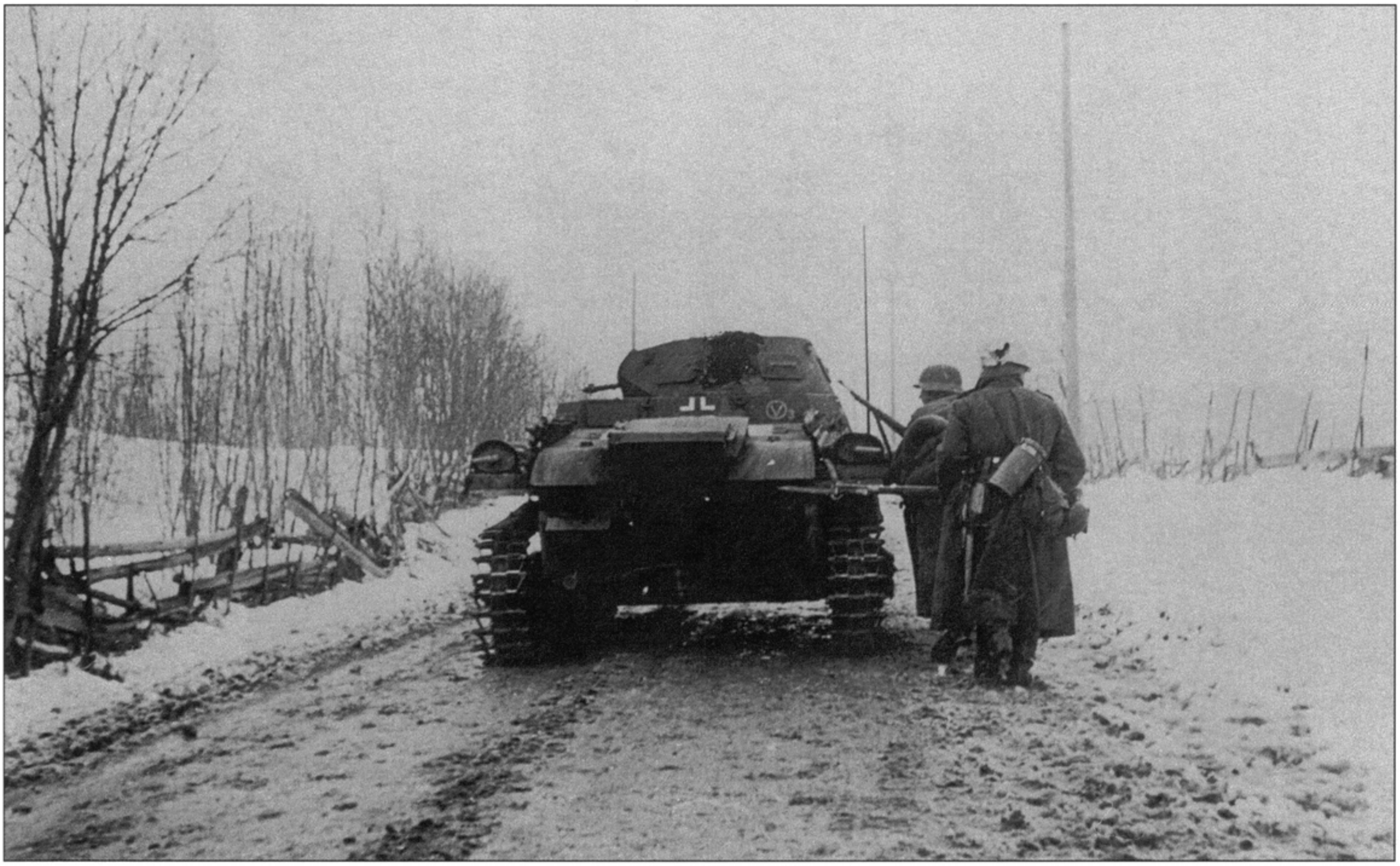
Motorcycle troops conduct winter exercises 1939-40. The standing bear emblem on the back of the leather dispatch bag is probably that of 293.Infanterie-Division. The tactical sign, also painted on the rear of the sidecar, would then indicate that it is assigned to 2.Kompanie of 293.Panzerjäger-Abteilung. It is interesting to note that the license number 'WH-162804' has also been repeated on the side of the bag. This machine appears to be a BMW R12 combination.



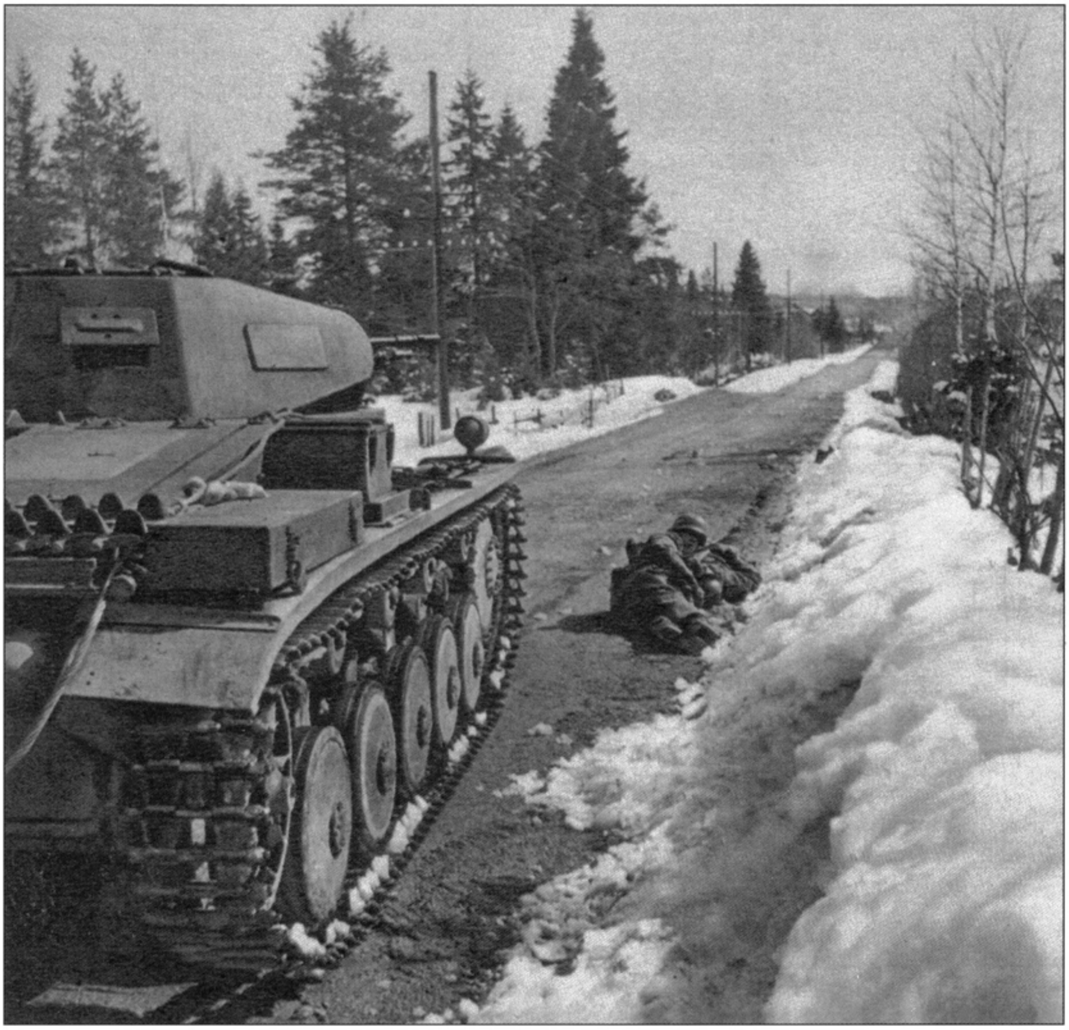


One of the most effective weapons in the Panzer-Divisions was the 8.8cm FlaK18 and FlaK36/37 anti-aircraft gun. In service since 1933, the '88' proved to be the best dual purpose gun used by any army during WWII and was responsible for many German battlefield successes. In this series of photographs, we see a battery being loaded into a transport ship bound for Norway in April 1940. Each gun has a letter denoting its position in the battery, painted on the recuperator housing. The first three anti-tank battalions equipped with this gun were formed in the spring of 1940. Until then, only Luftwaffe FlaK units were equipped with them. All of these guns are the earlier FlaK18 type with the one piece barrel.

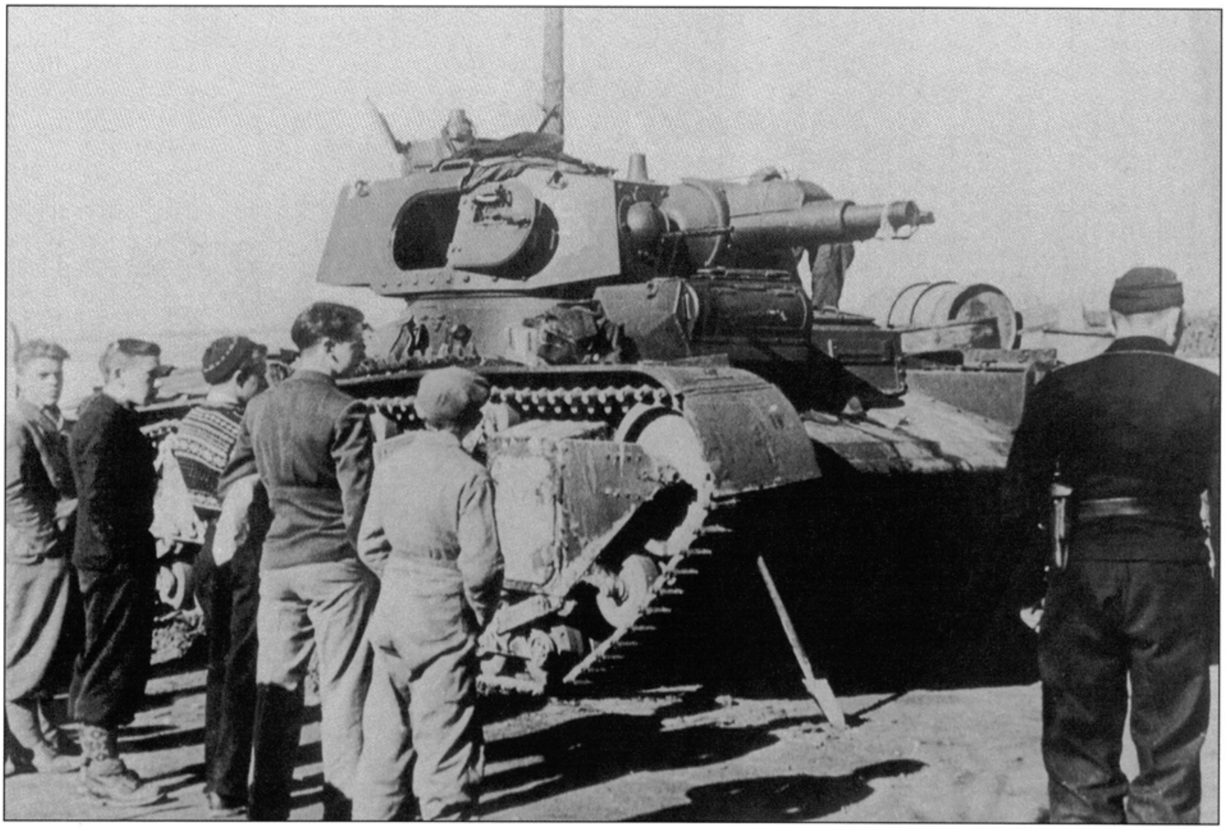




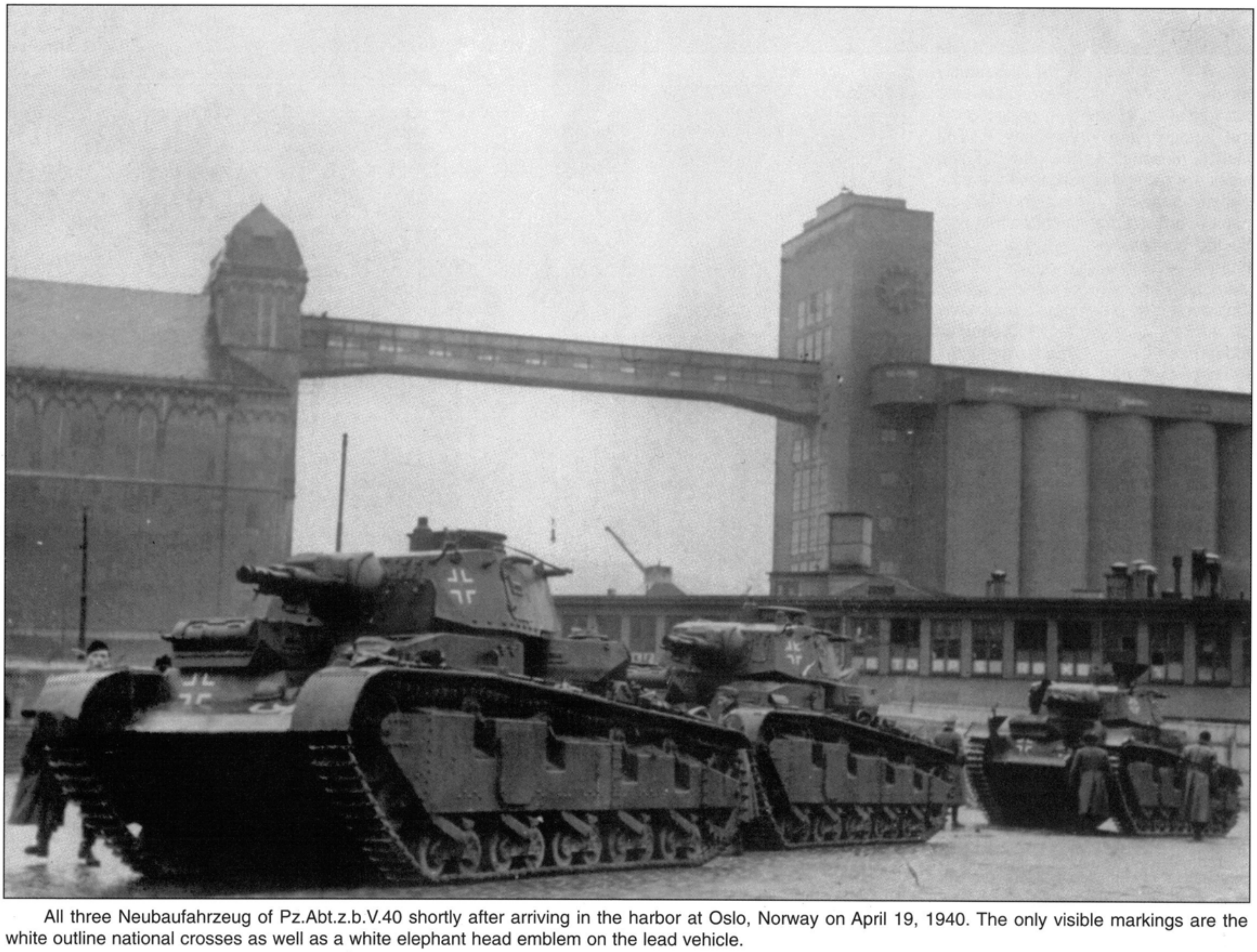
A Pz.Kpfw.I Ausf.A cautiously moves down a snow covered Norwegian road affording protection to the infantry who accompany it. The tactical markings on the rear hull and sides are painted in yellow with a white outline national cross. The tactical number on the turret has been removed by the censor, but is known to have been a white two digit number. There were no Panzer-Divisions involved in Operation 'Weseruebung', the invasion of Norway on April 9, 1940, but an independent armored battalion, Panzer-Abteilung z.b.V.40, was sent. It was equipped mainly with obsolete tanks, mostly Pz.Kpfw.I and II, because the Germans did not expect any armored resistance from the Norwegians. To bolster the force, Panzerzug Horstmann with three Neubau-Pz.Kpfw.IV arrived on April 19. Panzer-Abteilung z.b.V.40 was formed in March 1940 from three light companies from three Panzer-Regiments. On April 24, their reported strength was 29 Pz.Kpfw.I, 18 Pz.Kpfw.II, 4 Pz.Bef. and the 3 Nb.Pz.Kpfw.IV.



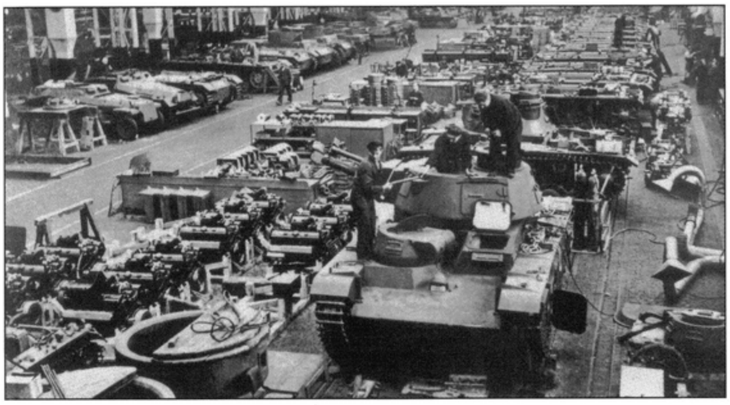
A Pz.Kpfw.II Ausf.A-C of Pz.Abt.z.b.V.40 provides cover fire for the accompanying infantry with its 2cm KwK30 gun. Unlike most other tanks in this unit, this one has no markings on the turret. There were 18 Pz.Kpfw.II in this unit when it was formed in March 1940.



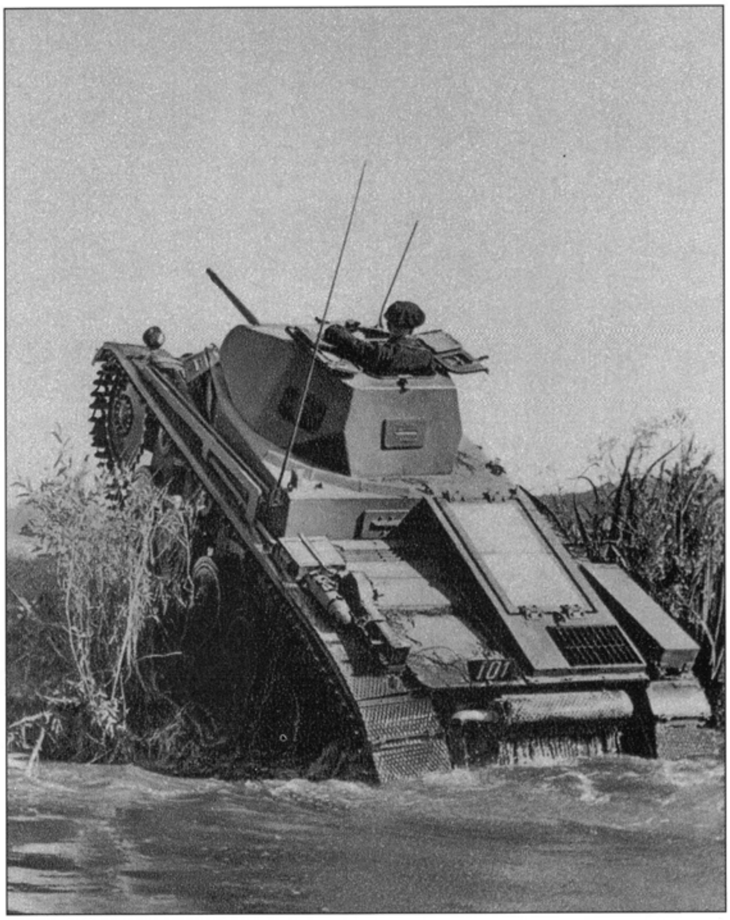
Only three Neubaufahrzeug were built by Rheinmetall-Borsig in 1935 and all were used by the tank training school in Putlos until the outbreak of the war. They were shipped to Oslo, Norway for Operation 'Weseruebung' in April 1940 where they saw limited action. One was destroyed and the remaining two were shipped back to Germany later in the year. Here we see one of them on the outskirts of Oslo in April-May 1940.



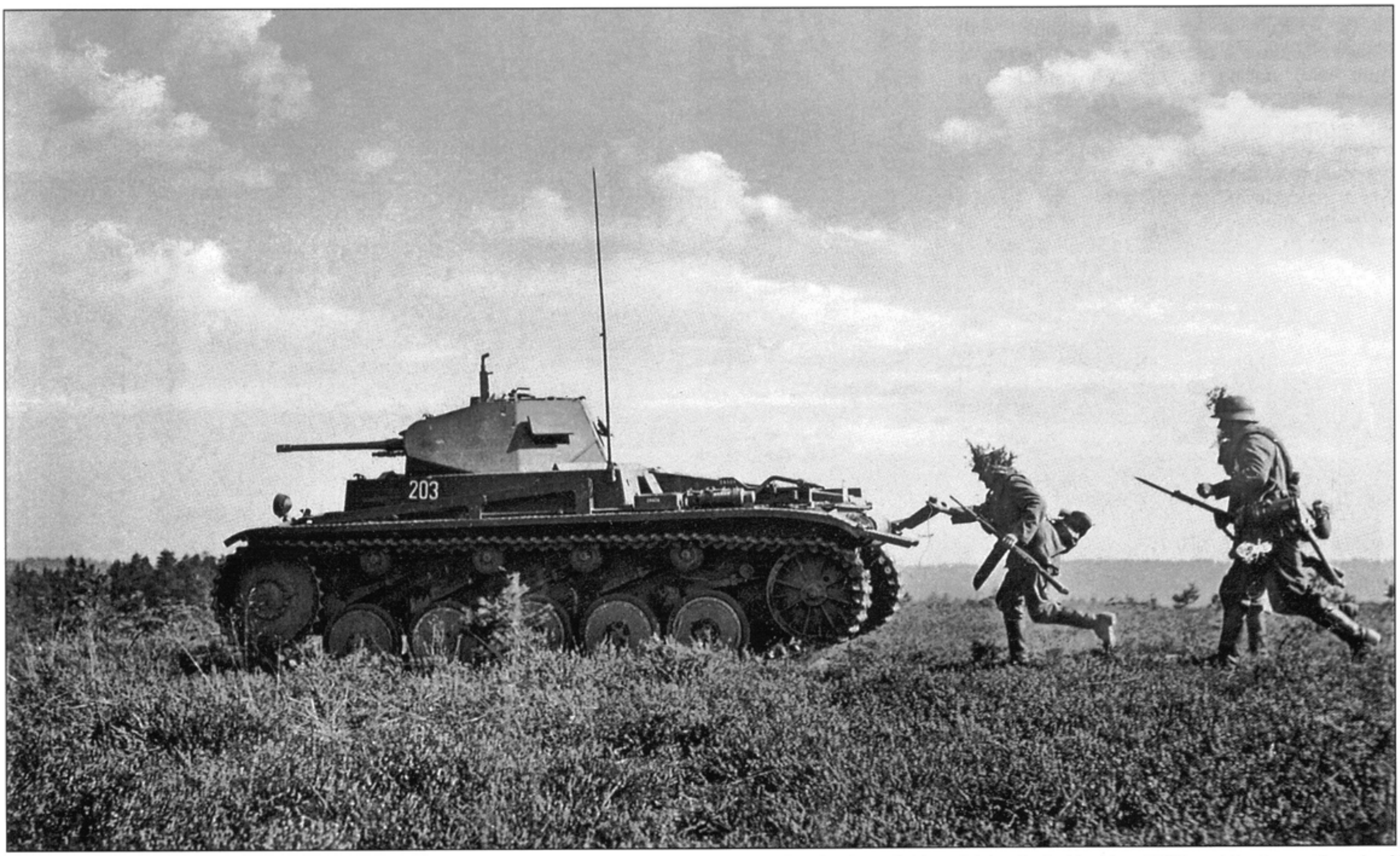
All three Neubaufahrzeug of Pz.Abt.z.b.V.40 shortly after arriving in the harbor at Oslo, Norway on April 19, 1940. The only visible markings are the white outline national crosses as well as a white elephant head emblem on the lead vehicle.



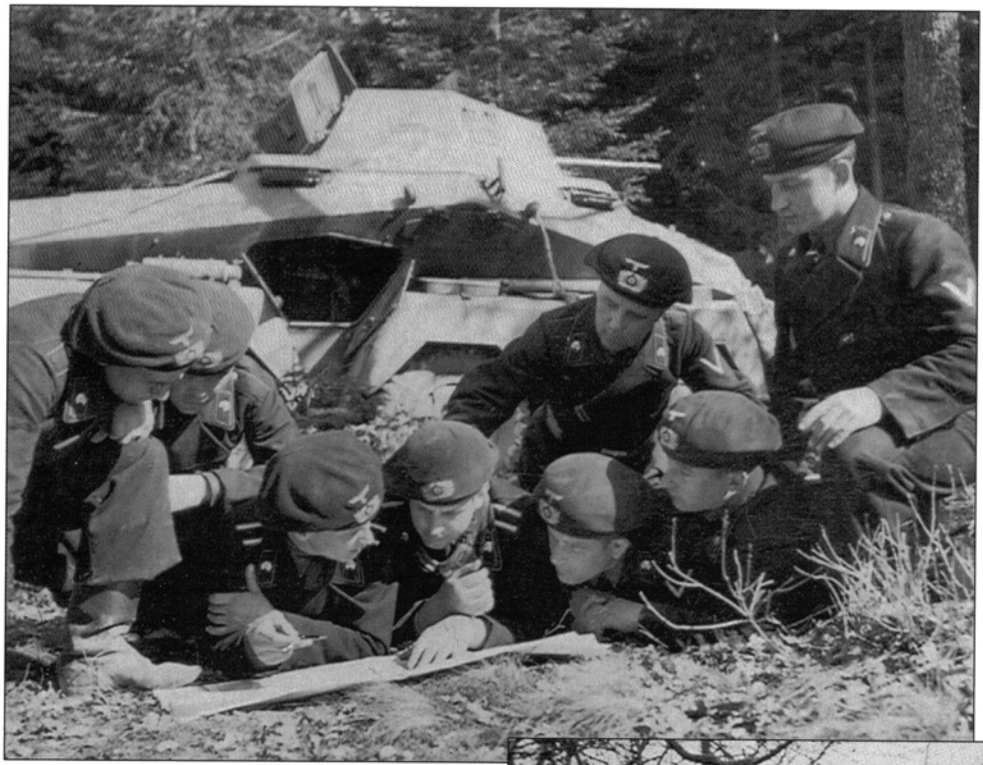
One of two Neubaufahrzeug mild steel prototypes manufactured by Rheinmetall-Borsig in 1934, seen here in the late 1930s. It is still fitted with the original Rheinmetall-Borsig rounded turret which was replaced on the three armored production vehicles with a turret manufactured by Krupp. Two Pz.Kpfw.III hulls can be seen in the foreground fitted with test weights to simulate the weight of the turret.



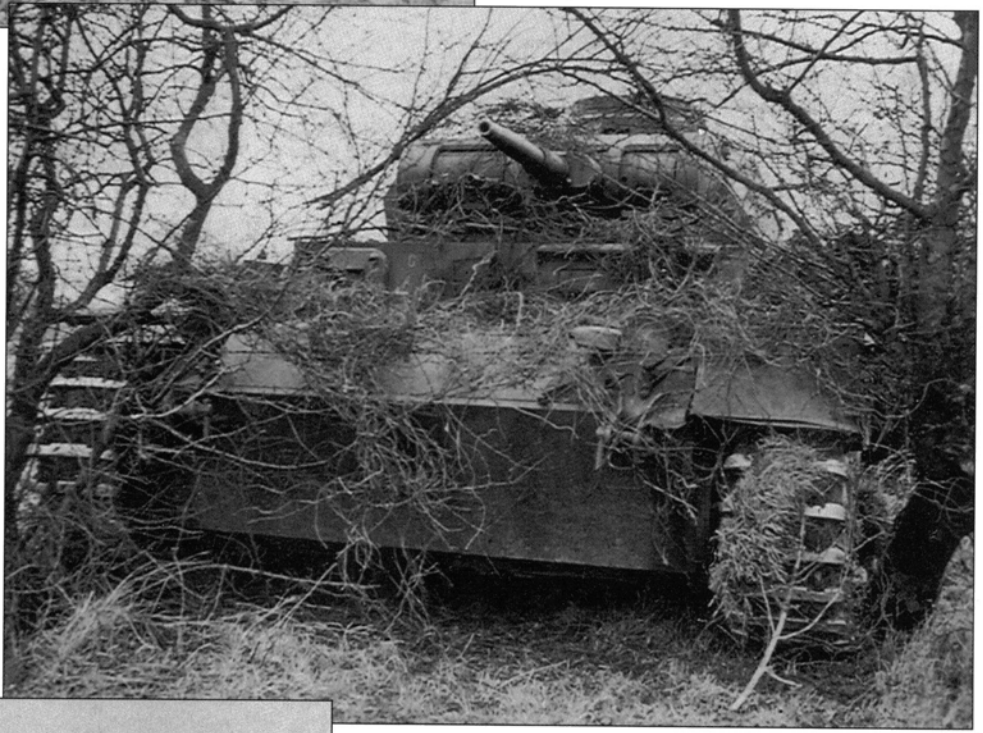
This Pz.Kpfw.II Ausf.A-C is unusual in that it has the tactical marking '101' indicating it is the vehicle assigned to the commander of I.Bataillon. In the normal organization chart of a Panzer-Division, this would normally have been a kl.Pz.Bef.Wg.I or Pz.Bef.Wg.III. There also appears to be a white air recognition band painted on the engine deck hatches.



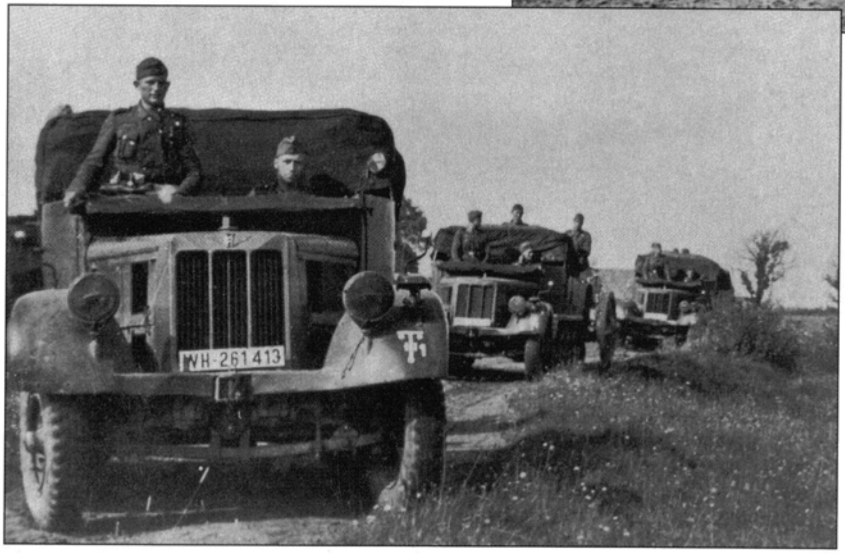
The Pz.Kpfw.II was the first true combat tank of the Wehrmacht in the late 1930s. Production of this vehicle started in May 1936 and by the outbreak of the war, there were 1,223 reported available. Additionally, there were 1,445 Pz.Kpfw.I, and together they formed the backbone of the Panzerwaffe. There were only 804 tanks of all other types available at this time. Here we see a Pz.Kpfw.II Ausf.A-C during training in 1939-1940. The tactical number '203' is painted on a rhomboid plate attached to the side of the hull and, on the original print, the chassis number can be seen painted on the vehicle jack just above the fire extinguisher.



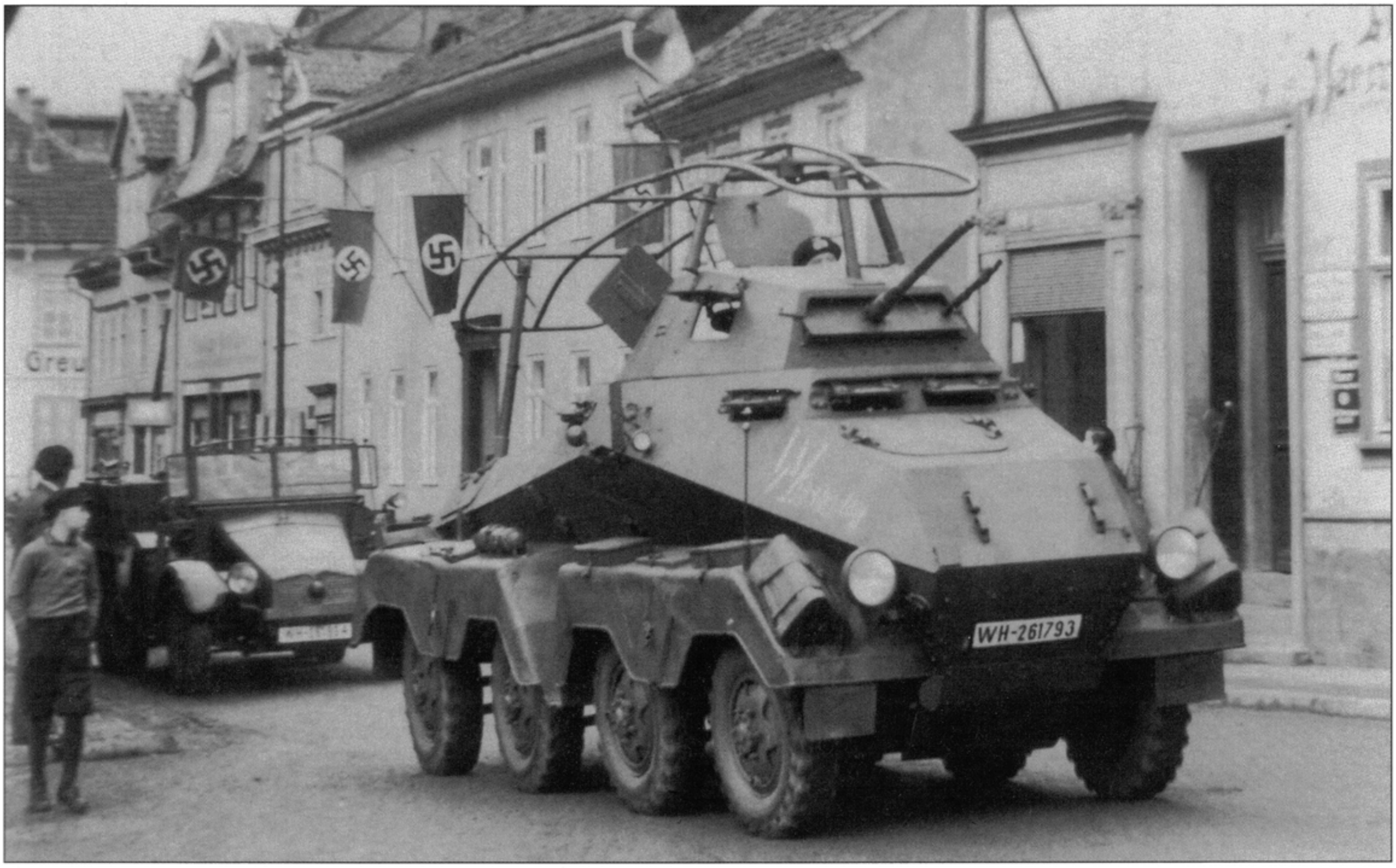
Armored car crews study a map prior to the invasion of France in May 1940. The vehicle in the background is a schwere Panzerspähwagen (Sd.Kfz.231) 8-Rad which formed the core of the German heavy reconnaissance companies. Each Panzer-Division was equipped with 61-62 light and heavy armored cars on May 10, 1940.



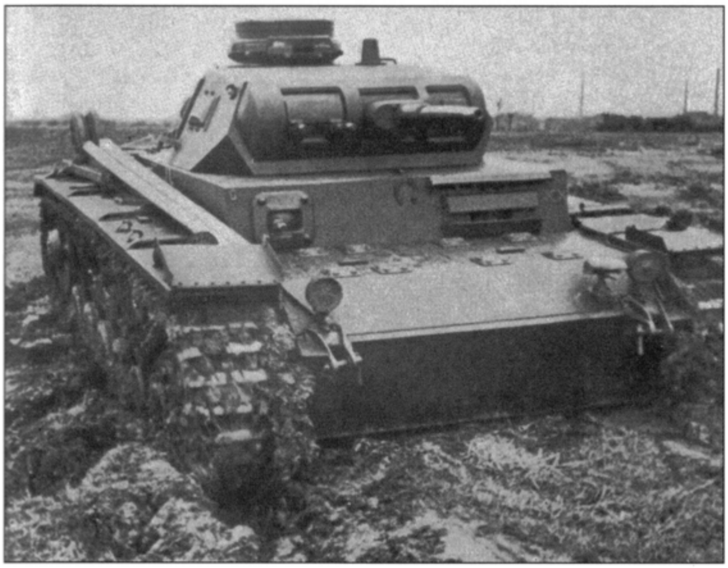
A Pz.Kpfw.III Ausf.E camouflaged with foliage close to the German border at the end of April 1940 waiting for orders to attack. The Panzer-Divisions weren't well equipped to meet the heavier French tanks encountered in the attack on France. There were 3,365 tanks distributed among the ten Panzer-Divisions which took part in the battle, however only 629 were the more heavily armed Pz.Kpfw.III or Pz.Kpfw.IV.



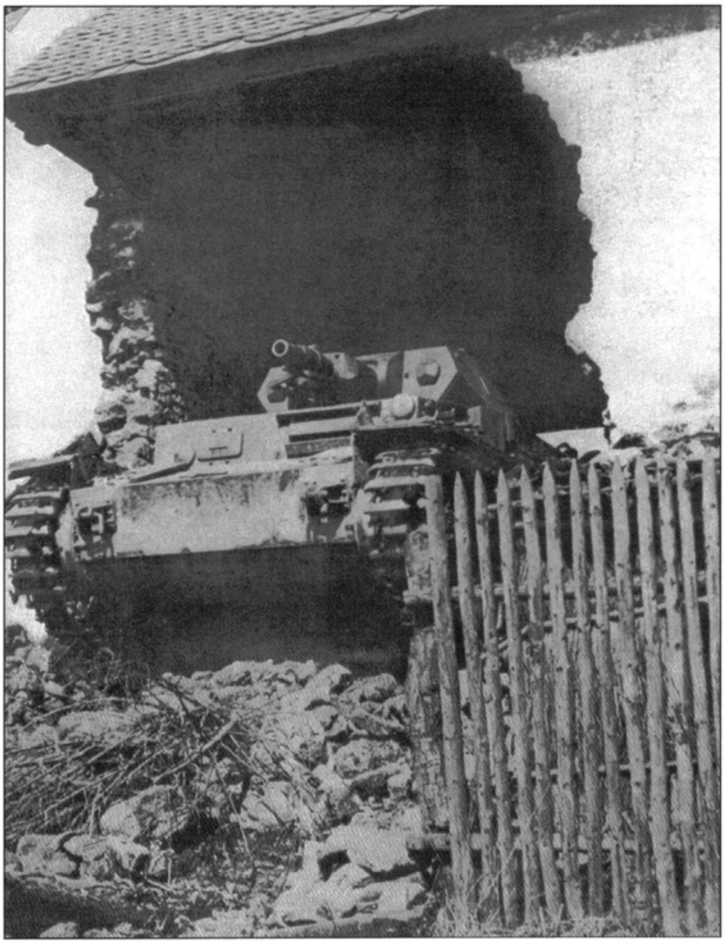
Three Sd.Kfz.11 half-track prime movers towing 10.5cm lFH18 howitzers along a dirt road somewhere in France in 1940. The tactical sign on the mudguard of the first vehicle indicates they are attached to the first company of a towed artillery battalion. They are finished in overall dark gray with a heavy coat of dust. The Sd.Kfz.11 was used throughout the war to tow light and medium artillery and anti-tank guns.



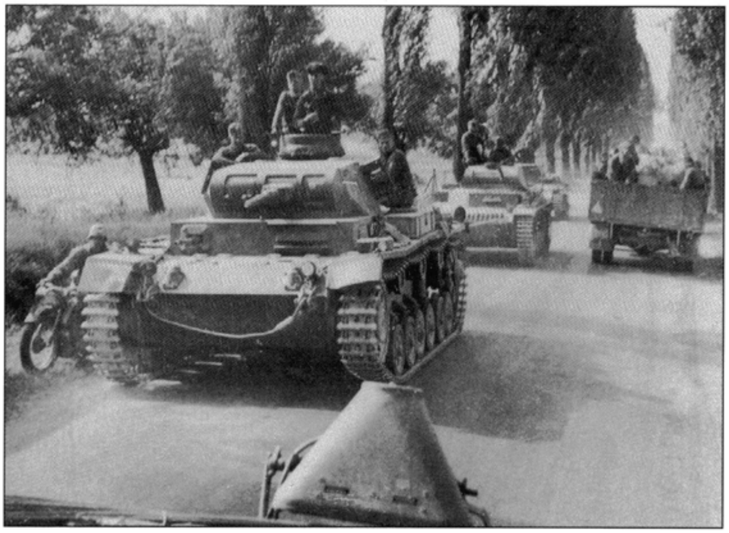
A schwere Panzerspähwagen (Fu) (Sd.Kfz.232) 8-Rad followed by a Krupp Protze light truck passing through a German city, probably in 1940. The vehicle registration number 'WH-261793' is painted in black on a white plate with a black border. Just above this can be seen a light patch where the white national cross has been painted over. On the side of the hull, the name 'Wiesbaden' has been applied, probably in red, with a white shadow, a practice that seems to have been common among armored car crews.



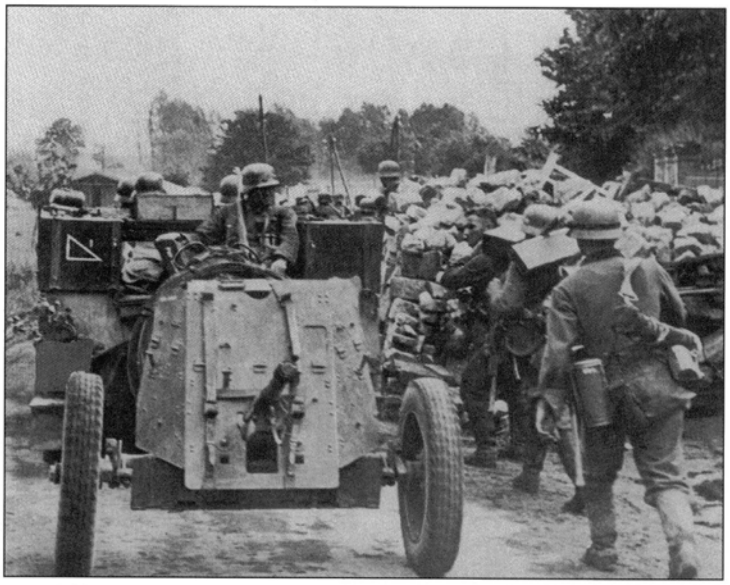
This Pz.Kpfw.III Ausf.E has become mired in a muddy field during maneuvers in spring 1940. There were 381 Pz.Kpfw.III in the Panzer-Divisions during this period, organized mostly in the light companies. In the table of organization dated February 21, 1940, each light company was authorized three Pz.Kpfw.III in the third and fourth platoon plus one in the company staff. This Pz.Kpfw.III is from 9.Panzer-Division as can be seen by the 'XX' divisional emblem painted in yellow beside the driver's visor and used by this division in 1940. A variation of this emblem was later adopted by 6.Panzer-Division for Operation 'Barbarossa'.



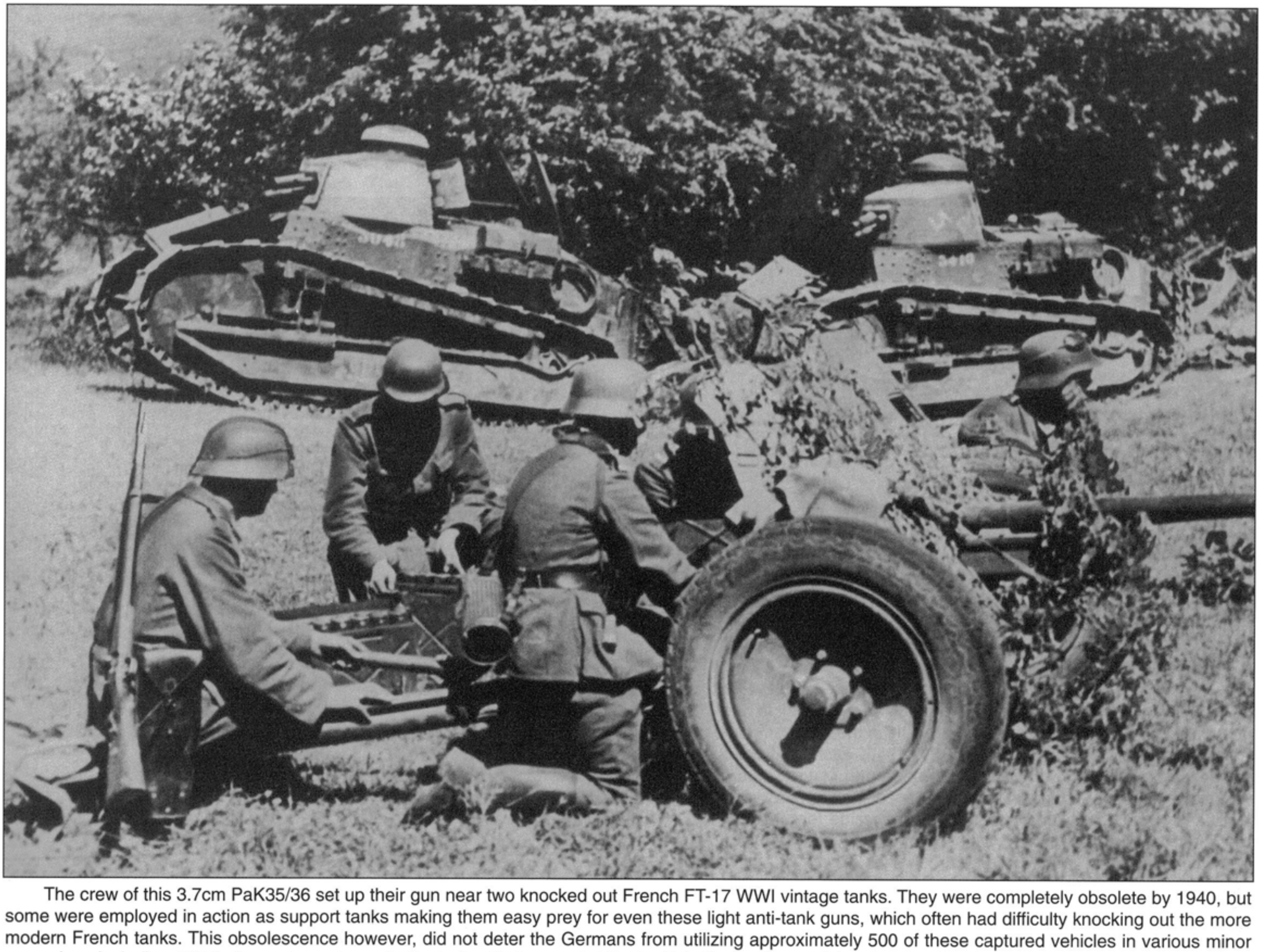
This photo appears to show a Pz.Kpfw.IV Ausf.B or C breaking through a building wall, but in fact it was taken during exercises during the winter of 1939-40. The hole was probably made by an artillery shell as there is no debris on the tank, so this was likely a propaganda photo.



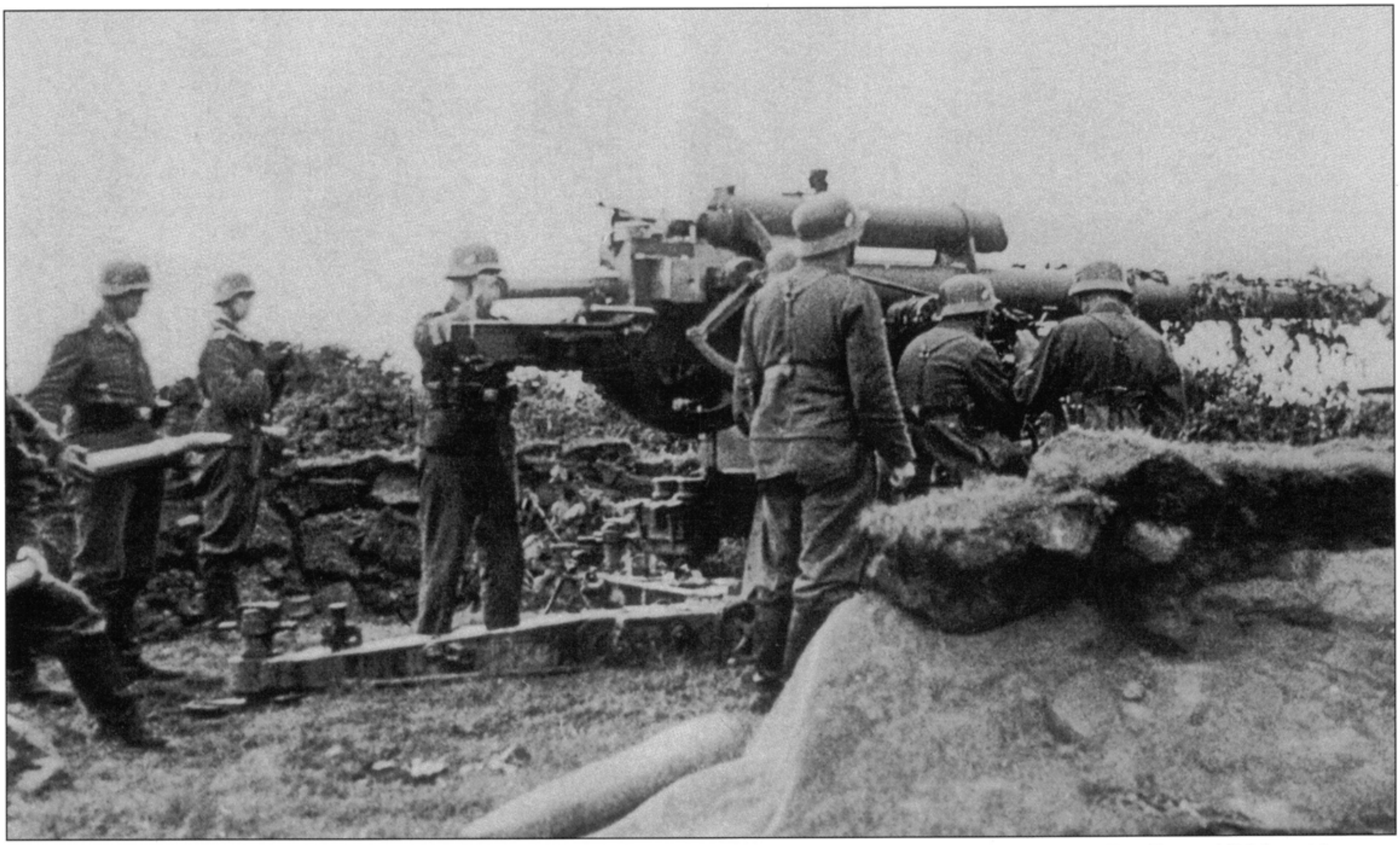
A Pz.Kpfw.III Ausf.F followed by a Pz.Kpfw.II Ausf.A-C and a Pz.Kpfw.I advance into France in May 1940. During the battle for France, the most numerous versions of the Pz.Kpfw.III were the Ausf.E and Ausf.F. Between December 1938 and July 1940, 531 vehicles of both types were manufactured. The cast air intakes on the glacis identify this one, otherwise they were very similar.



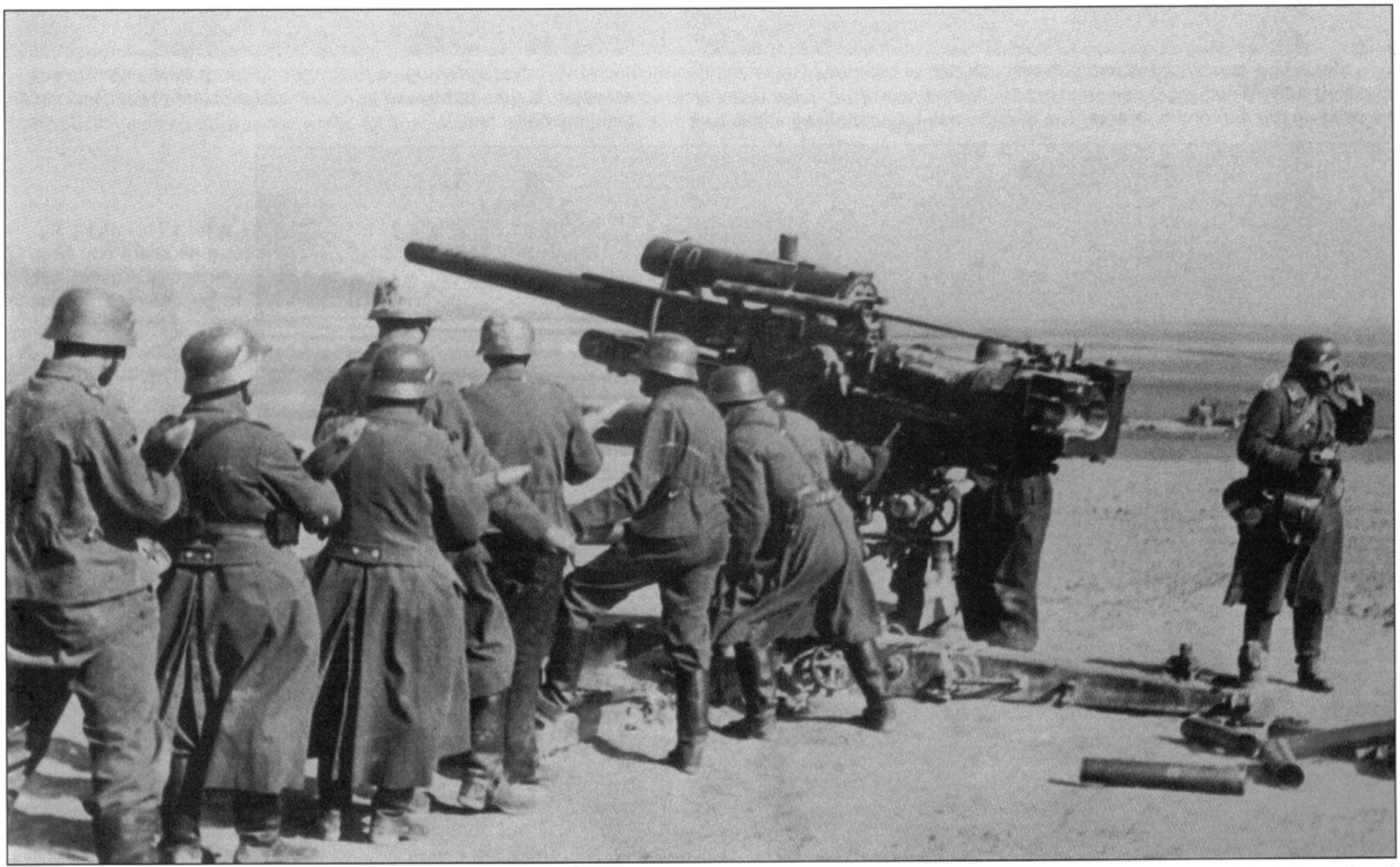
A Krupp Protze Kfz.69 towing a 3.7cm PaK35/36 past a barricade on a road in southern France in June 1940. This was not the only anti-tank gun used in the German divisions at this stage of the war as they also employed 4 companies of Czech-made 4.7cm anti-tank guns mounted on the Pz.Kpfw.I chassis. Nevertheless, the PaK35/36 was still the standard anti-tank gun in use although it was virtually obsolete by this time. The tactical sign painted on the back of the Krupp Protze indicates this unit belongs to the 1.Kompanie of an anti-tank battalion.



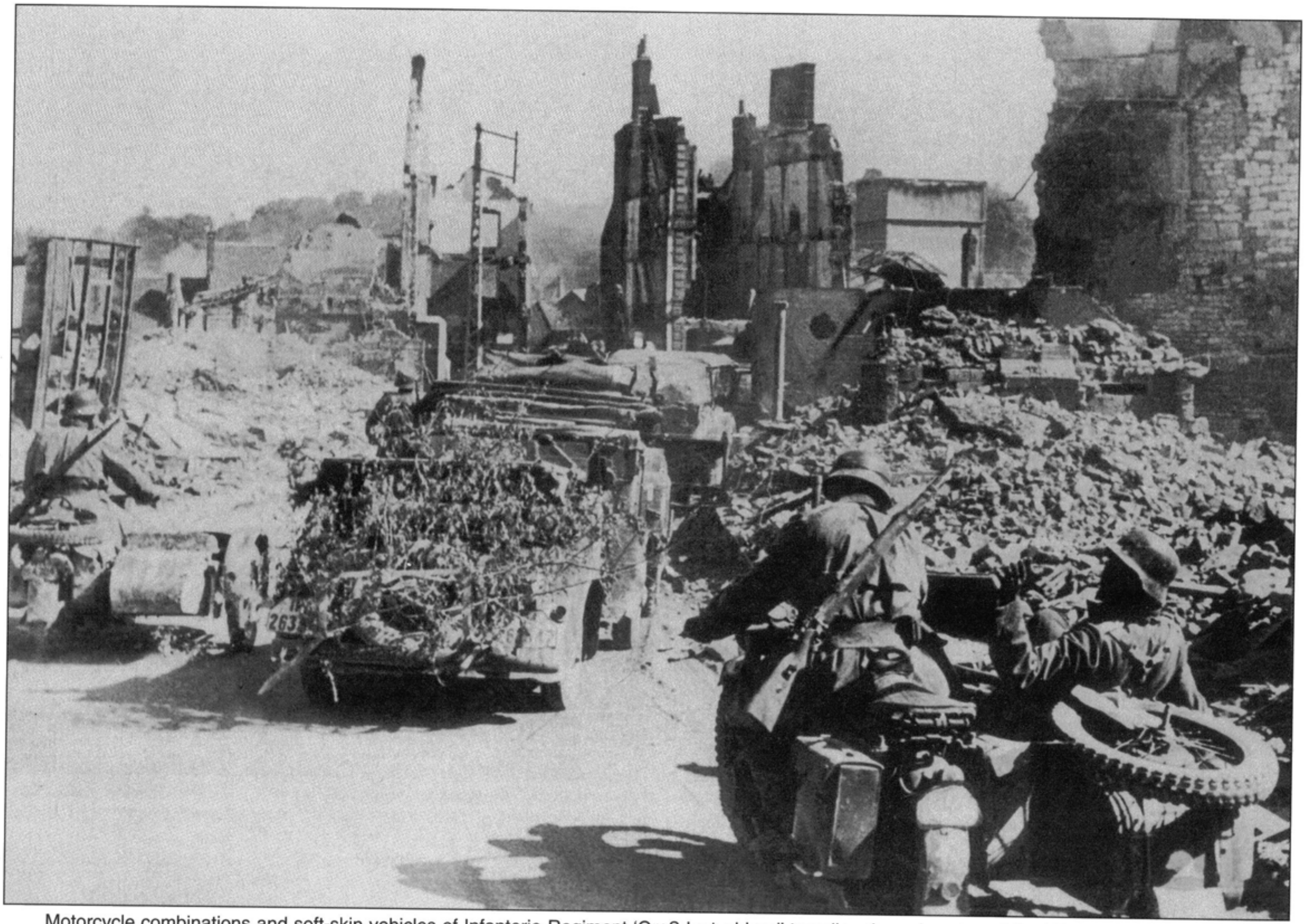
The crew of this 3.7cm PaK35/36 set up their gun near two knocked out French FT-17 WWI vintage tanks. They were completely obsolete by 1940, but some were employed in action as support tanks making them easy prey for even these light anti-tank guns, which often had difficulty knocking out the more modern French tanks. This obsolescence however, did not deter the Germans from utilizing approximately 500 of these captured vehicles in various minor campaigns including 100 that were turned over to the Luftwaffe to guard airfields. Only the leading tank has been painted in a camouflage scheme but both have serial numbers, 3048 and 3410, painted in white. The second tank also has an illegible name painted on the turret.



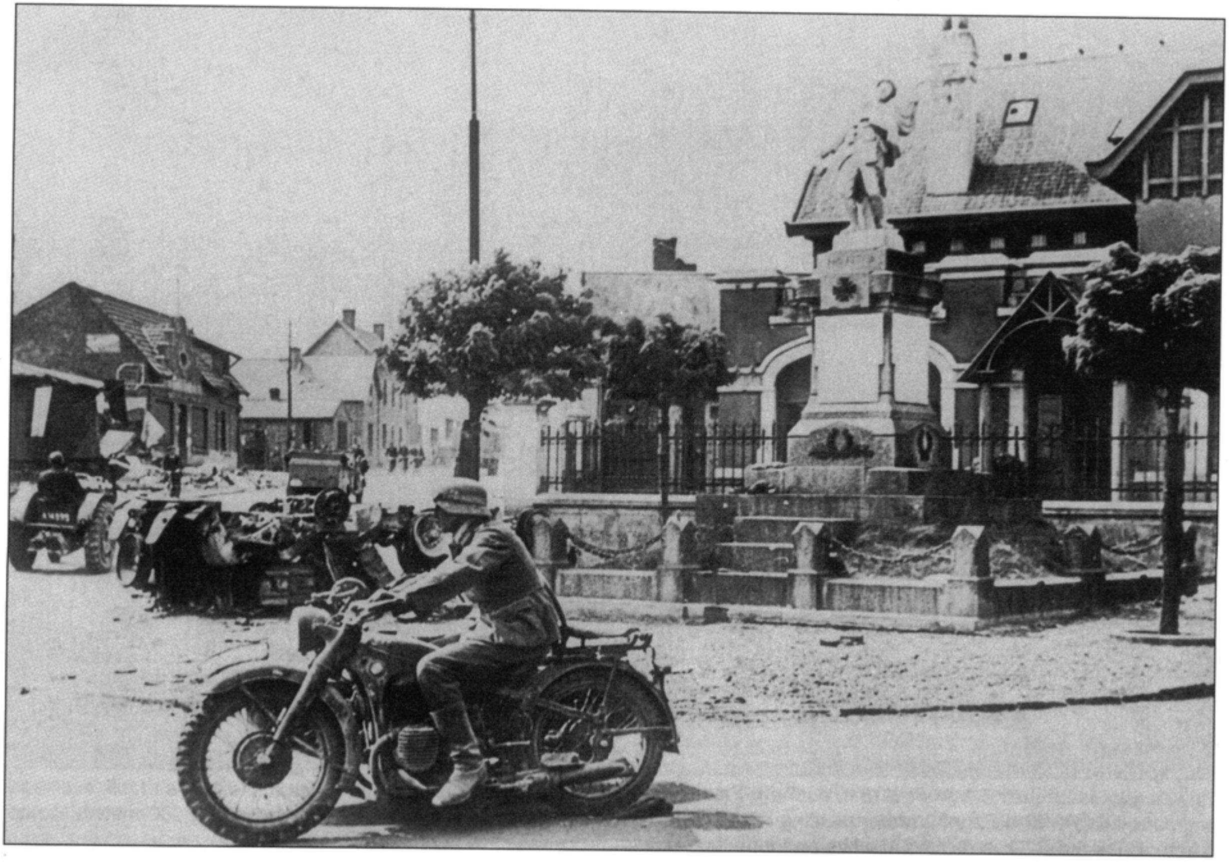
The '88' played a major part in the battle for France and was instrumental in bringing the British attack against Rommel's 7.Panzer-Division at Arras on May 21, 1940 to a halt. Here we see a Luftwaffe 8.8cm FlaK18 in action near Amiens in early June 1940. This was a new role for the Luftwaffe FlaK crews, but later it would become routine.



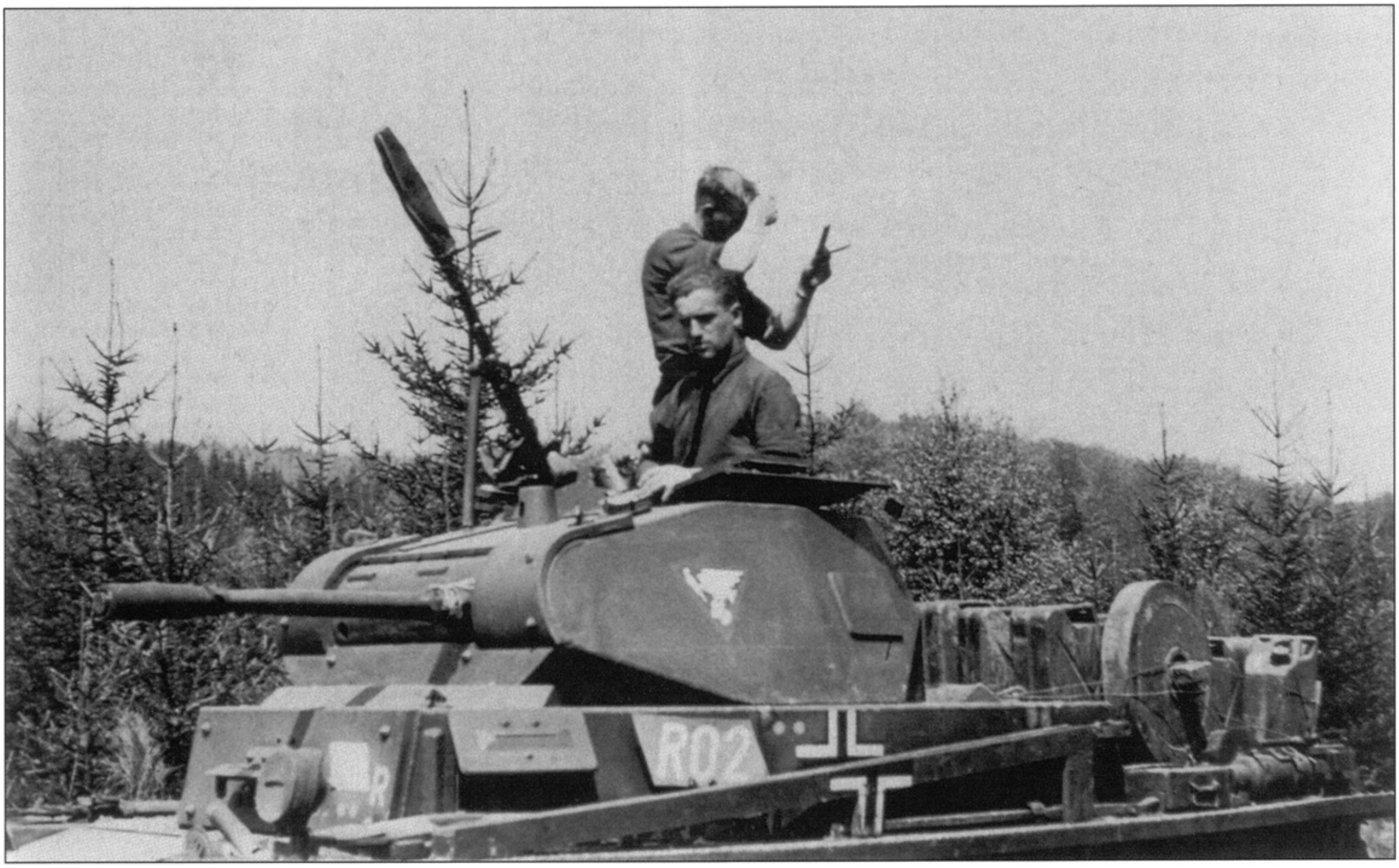
The gun crew queues up with rounds for their 8.8cm FlaK18 in northern France, late May 1940. Taken in the heat of battle, the gun is in full recoil and empty shell casings litter the ground around. The Pzgr.39 armor piercing round could penetrate 122mm of armor plate at a range of 1,000 meters, so no Matilda or KV crew was safe from it. The letter 'O' is painted in white on the recuperator housing.



Motorcycle combinations and soft-skin vehicles of Infanterie-Regiment 'Großdeutschland' traveling through a demolished French town near Amiens in mid-May, 1940. The censor has removed the license number from the motorcycle combination, but the famous white 'Stahlhelm' emblem of the division can be seen on the rear of the sidecar. The division was fully motorized at this time with 4 infantry battalions.

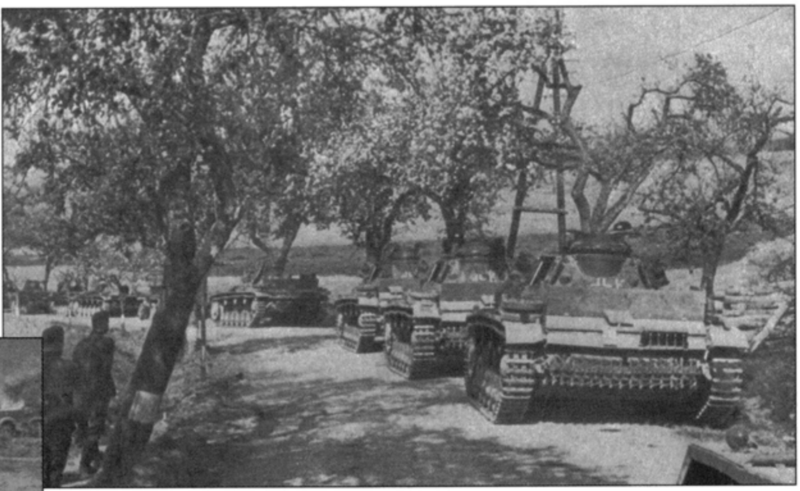


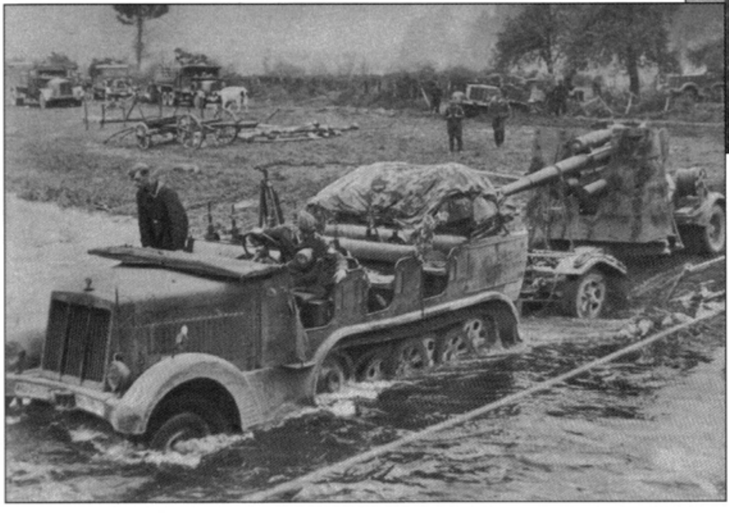
A BMW R12 motorcycle combination passes a monument to French soldiers killed in WWI located in Arras, early June 1940. There were single motorcycle infantry (Kradschützen) battalions attached to the Panzer-Divisions organized into 2-3 companies in addition to the motorcycle reconnaissance companies and other smaller sub-units who also used motorcycles.



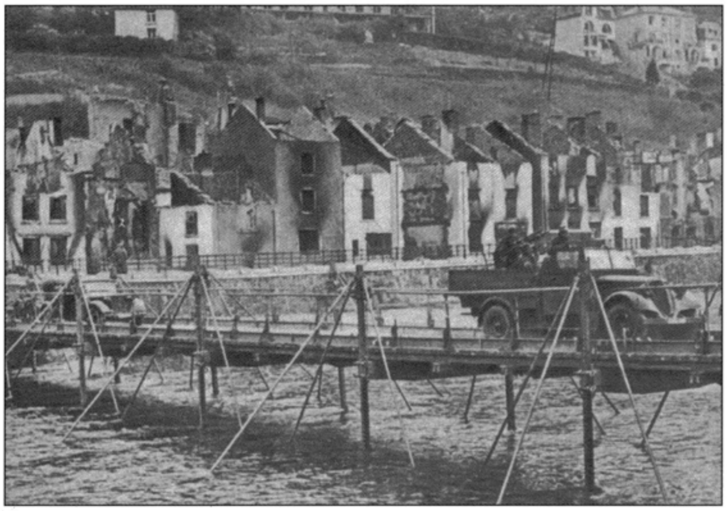
A Pz.Kpfw.II Ausf.A-C halted on a road somewhere in France, 1940. The tank belongs to the regimental staff of either Pz.Rgt.3 or Pz.Rgt.4 of 2.Panzer-Division. Each regiment possessed 49 Pz.Kpfw.II at the beginning of the battle for France. It carries a full set of regulation markings including two dark yellow dots, which was the tactical sign for 2.Panzer-Division, and the tactical number 'R02', indicating it is the regimental adjutants vehicle, painted in white on a dark yellow rhomboid metal plate. A white rhomboid tactical sign for a Panzer-Division has been painted on the front plate with the regimental 'R' beside it. Other vehicles in the regiment carried the same sign but with the company number painted beside it. A unit emblem is painted on the side of the turret. It appears to be a white eagle in flight carrying a top hat in its talons and an umbrella in its beak, painted on an alternate color triangle, possibly red, and may be an early form of the colorful markings this unit carried on its vehicles during Operation 'Barbarossa'. The national cross is unusual in that it has a thin black outline painted outside the white. Of special interest is the anti-aircraft pedestal mount on the turret roof for the MG34.

A column of Pz.Kpfw.II and Pz.Kpfw.III Ausf.E or F from Panzer-Gruppe von Kleist on a road waiting marching orders in early May 1940. Panzer-Gruppe von Kleist, forming the southern arm of the attack, was composed of XIX.Panzer-Korps under Guderian and XLI.Panzer-Korps under Reinhardt. Spare track links are carried on the back of each vehicle and probably the front as well. They are also equipped with smoke candle racks fixed to the rear plate. Markings are limited to a white outline national cross and a white 'K' signifying Panzer-Gruppe von Kleist.

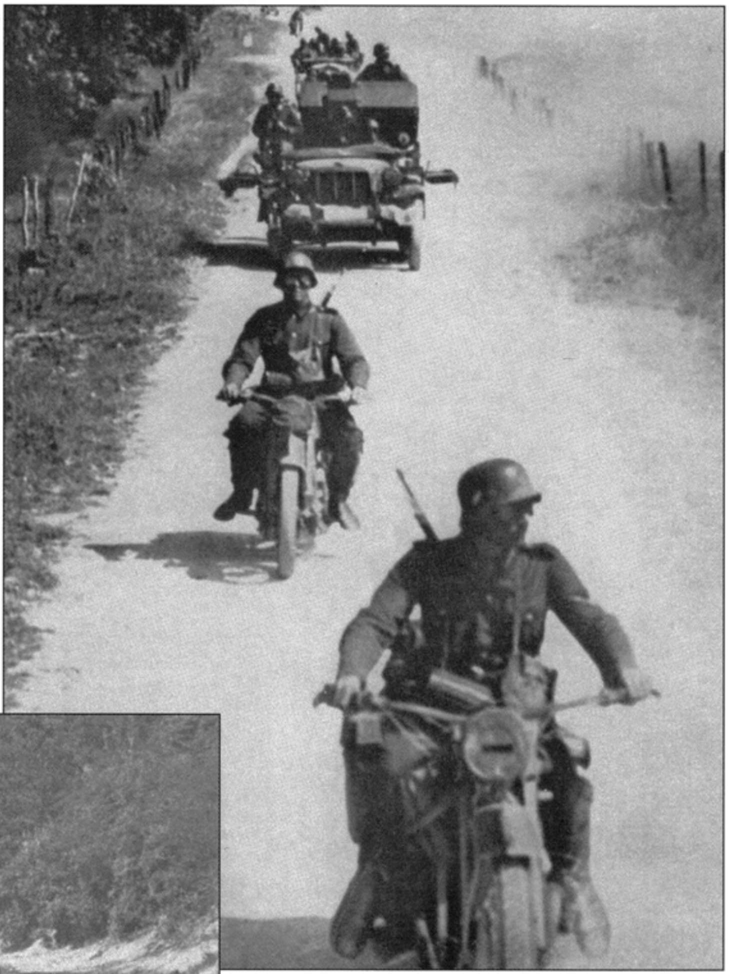




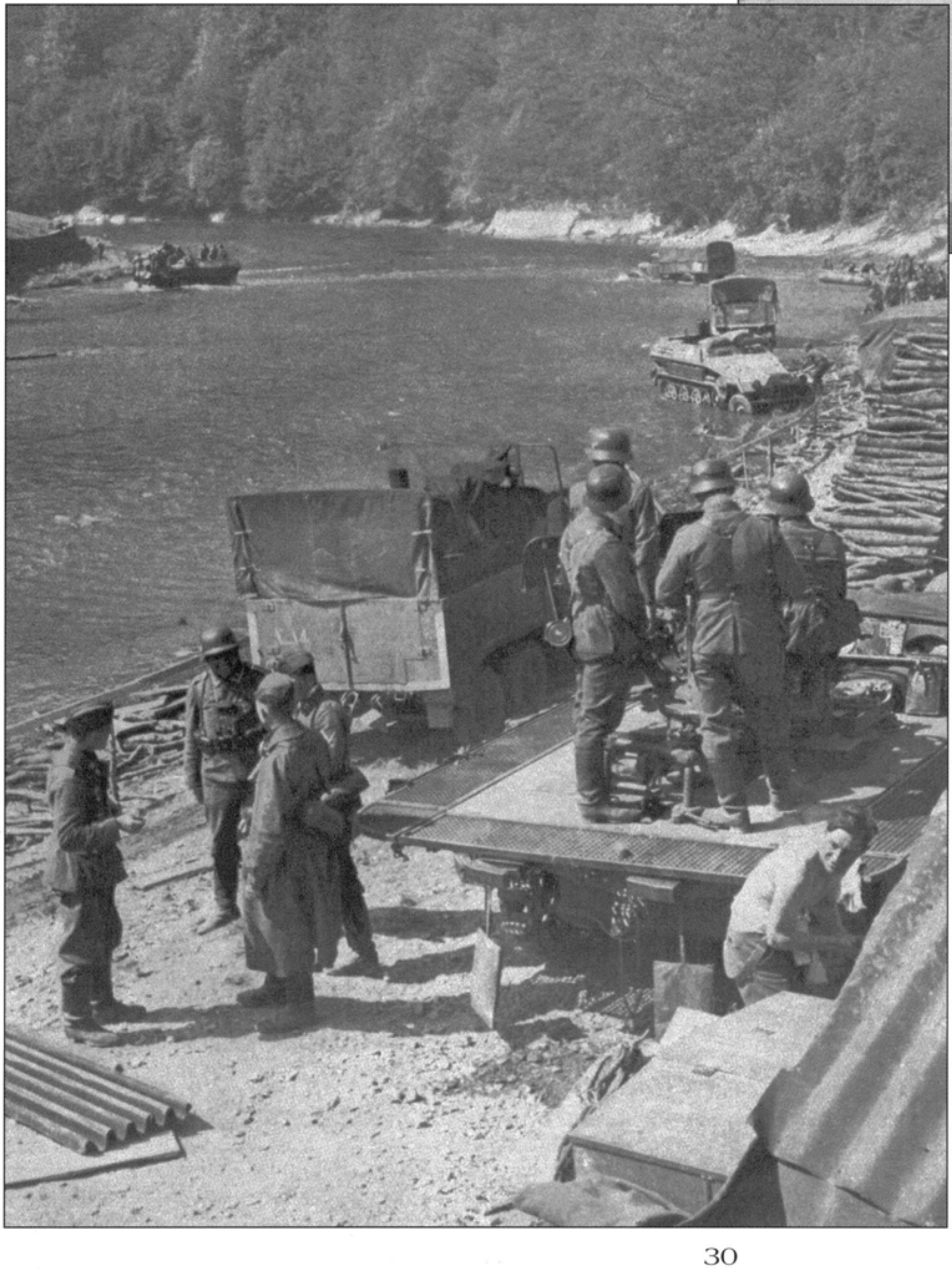
An early model Luftwaffe Sd.Kfz.7 towing an 8.8cm FlaK18 across a shallow river. Originally built by Krauss-Maffei as the KM m 10 in 1936, it was also built by Hansa-Lloyd as the HL m 10 and is easily recognizable by its shorter track run which has two less road wheels than the later and more common version. There are two license number plates painted on the front bumper which are repeated on side of the body at the rear of the vehicle. There is also a tactical sign painted on the left front mudguard, a white circle with a line through it.



An Adler W61 (Kfz.4) light truck fitted with a twin MG34 anti-aircraft machine gun mount, crosses an engineer's bridge in France in May 1940. This is probably a field workshop modification as this gun was normally seen mounted on light cross country cars.

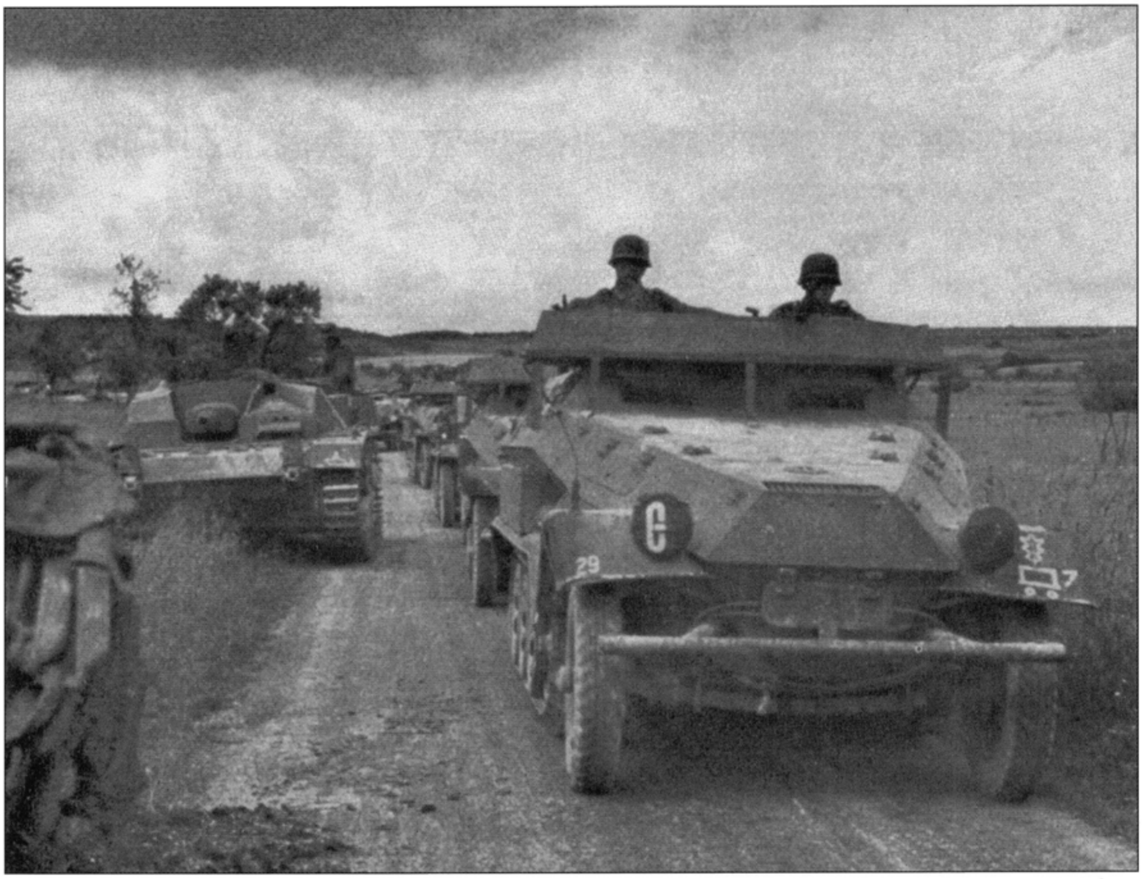


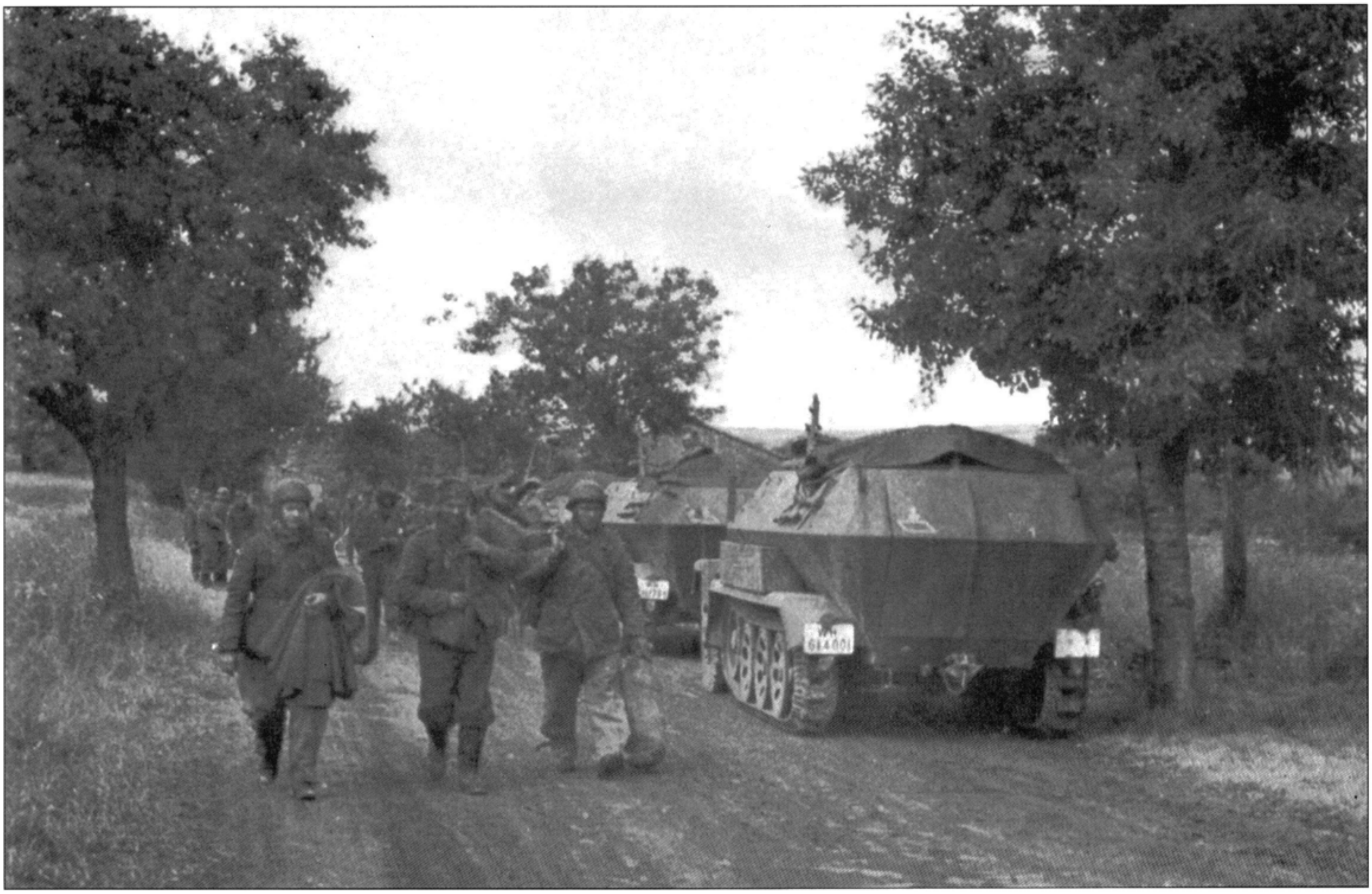
Two motorcycles lead a column of vehicles across the French countryside, including an Sd.Kfz.10/4 armed with the 2cm FlaK30 or FlaK38 anti-aircraft gun. In addition to its anti-aircraft duties, the FlaK30/38 was also useful against light armored targets on the ground using armor piercing ammunition. Later models were provided with an 8mm armored cab.



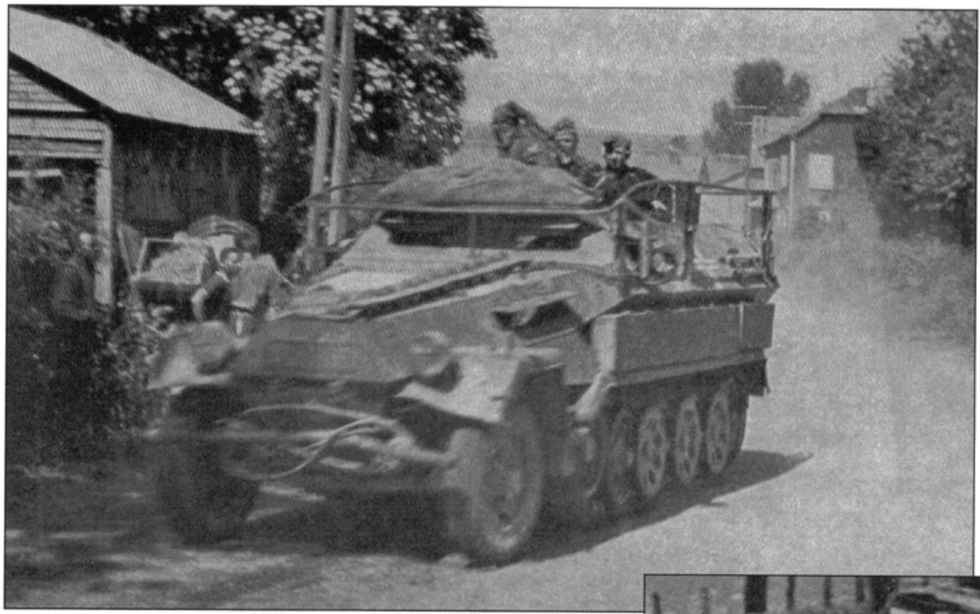
Another Sd.Kfz.10/4 provides anti-aircraft defense while German troops cross a shallow river. In the background, the crew of an Sd.Kfz.251/1 Ausf.B are using the opportunity to wash the dirt and grime off their vehicle. Visible on the rear of the truck passing on the left is the white divisional oakleaf emblem of 1.Panzer-Division above a white outline rhomboid with a '4' painted beside it.

A trio of Sd.Kfz.251/18 Ausf.A mittlere Beobachtungspanzerwagen from 1.Panzer-Division in France, May 1940. They are fitted with a map table that extends over the driver's compartment roof and were utilized as an observation vehicle by headquarters staff. The white divisional oakleaf emblem is painted on the left mudguard above the tactical sign for the seventh company of a motorized infantry regiment. On the right mudguard, a number '29' is painted, which may indicate the vehicle number within the unit. The headlights have canvas covers over them, the right one of which, has the letter 'G' painted on it, signifying Guderian's XIX.Panzer-Korps. On the left, we see one of the few StuG.III Ausf.A, from Sturmgeschütz-Batterie 640, that took part in the battle. Instead of the standard tactical sign for a self-propelled gun unit, it has the earlier sign consisting of a white outline Panzer rhomboid with a small arrow on top, painted on the left mudguard.

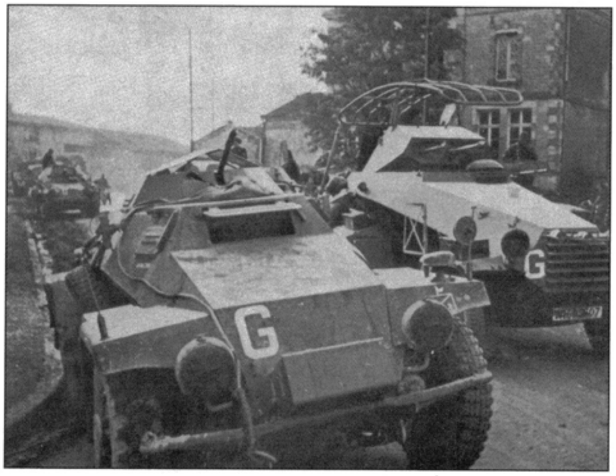




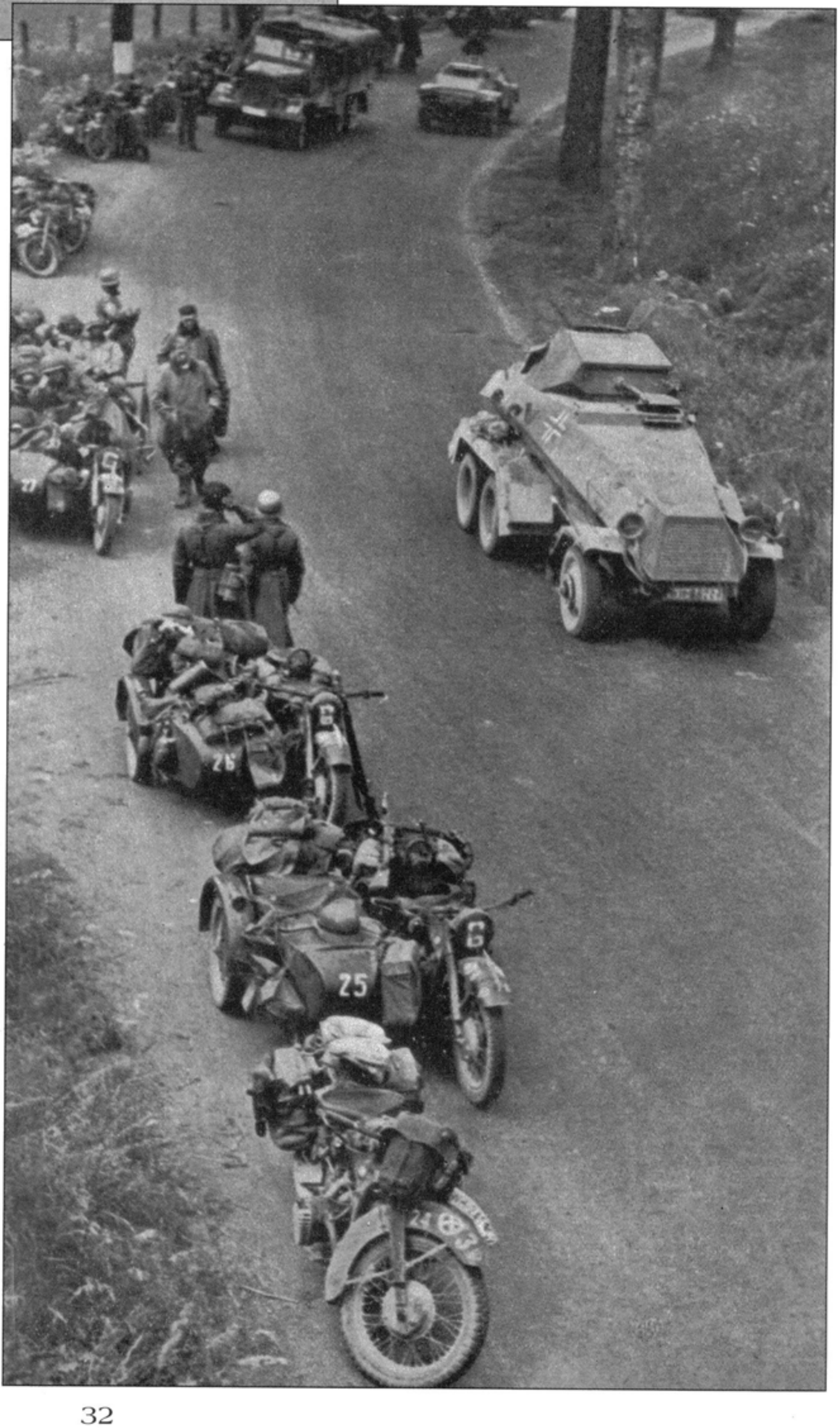
French tank crew march into captivity beside an Sd.Kfz.251/1 Ausf.B, one of four assigned to Sturmgeschütz-Batterie 640 as command vehicles because of a shortage of Sd.Kfz.253. The same tactical sign seen on the StuG.III Ausf.A in the photo above, is painted on the left rear crew compartment door while a white outline 'W' with a '1' beside it is painted on the right door. Sturmgeschütz-Batterie 640 was attached to Infanterie-Regiment 'Großdeutschland' for the attack on France and afterward, was incorporated permanently into the division.



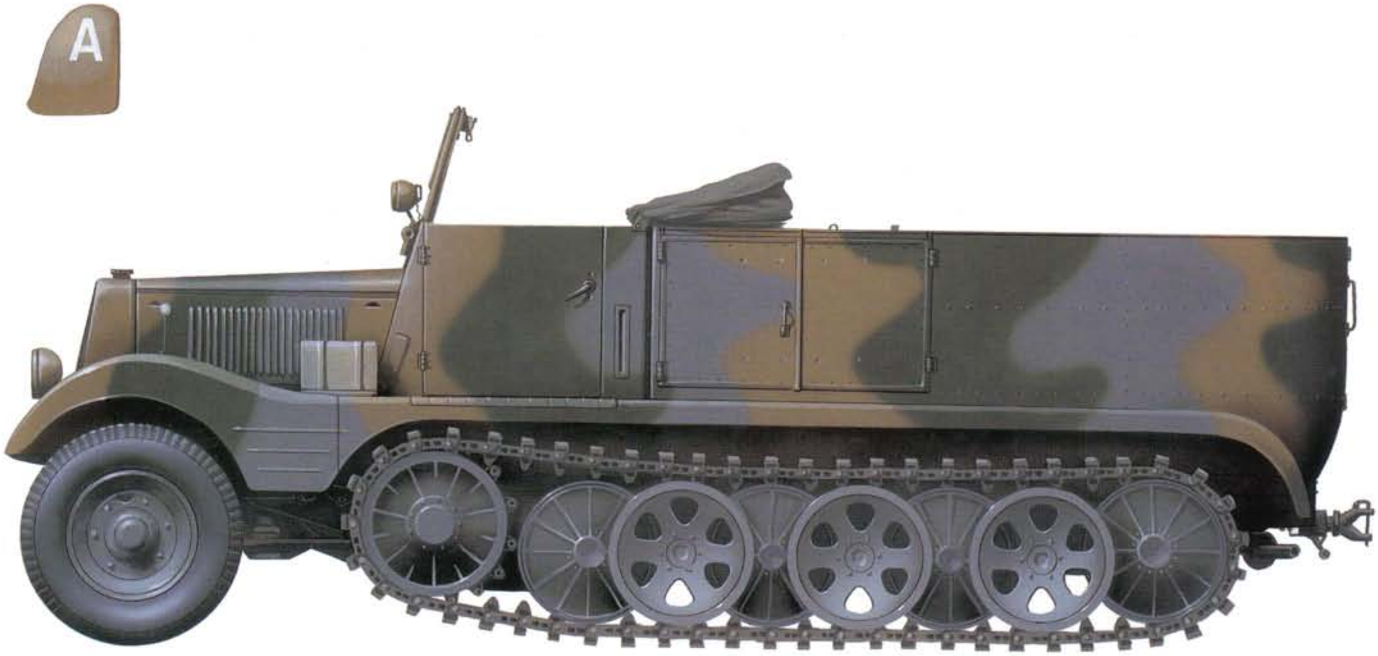
This Sd.Kfz.251/6 Ausf.A command half-track is fitted with an early style of frame antenna. The divisional emblem for one of the Panzer-Divisions using a 'Y' is barely visible on the right mudguard.



A schwere Panzerspähwagen (Sd.Kfz.232) (Fu) 6-Rad passes an Sd.Kfz.221 of 2.Panzer-Division in France in June 1940. Both vehicles carry the white letter 'G' for Guderian's XIX.Panzer-Korps, prominently displayed on the front. The Sd.Kfz.221 also has the tactical sign of a motorized reconnaissance unit with a '2' in the lower right corner, painted on the left mudguard. Beside that can be seen the two yellow dots representing 2.Panzer-Division. An unrecognizable inscription has been painted under the driver's side visor as well.

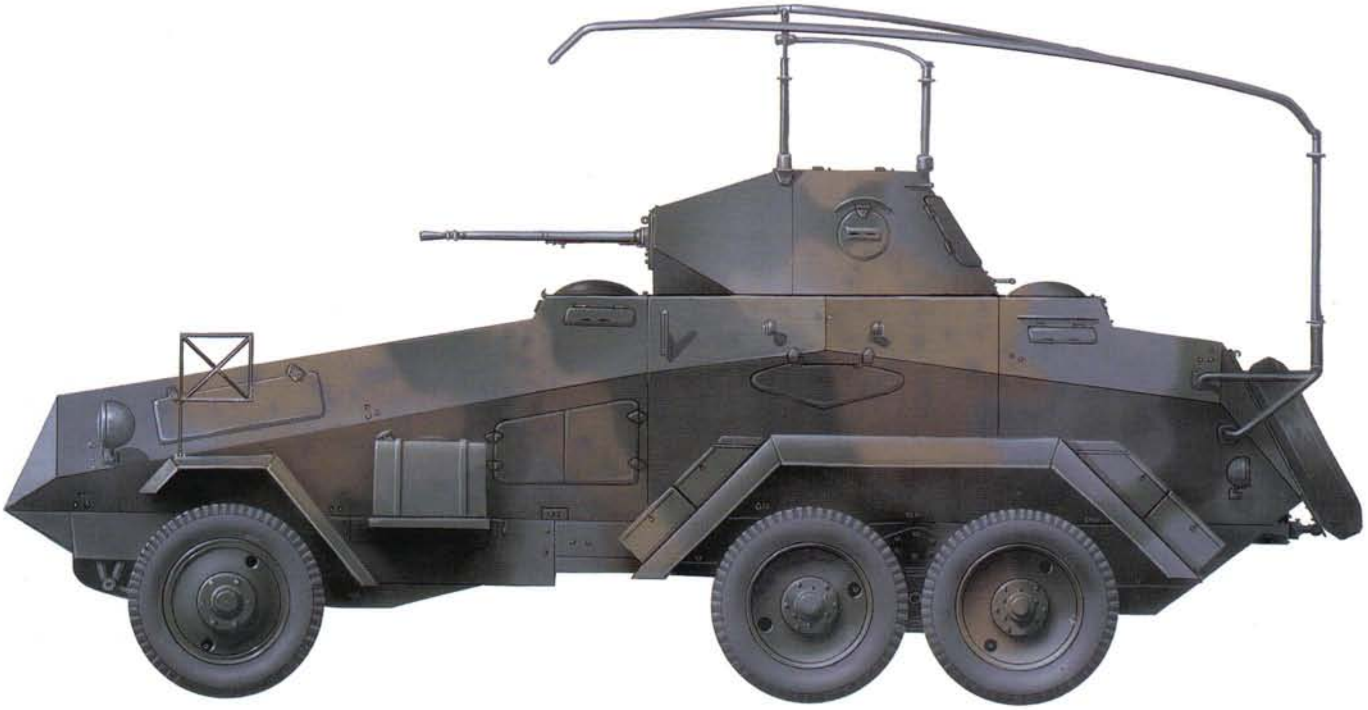


An Sd.Kfz.231 6-Rad armored car followed by an Sd.Kfz.221, passes a motorcycle column on a road in France in May 1940. By this time, the Sd.Kfz.231 6-Rad was already obsolete and was withdrawn from service by the end of the year. The motorcycles all display standard tactical markings including the symbol for a motorcycle company followed by the company number, in this case, a '3'. Each machine is also numbered starting with '24' and it is interesting to note that they are lined up in order. The headlight covers also have the letter 'G' painted on them for Guderian's XIX.Panzer-Korps. Also of interest is the cavalry saddlebag carried by the lead BMW R12.



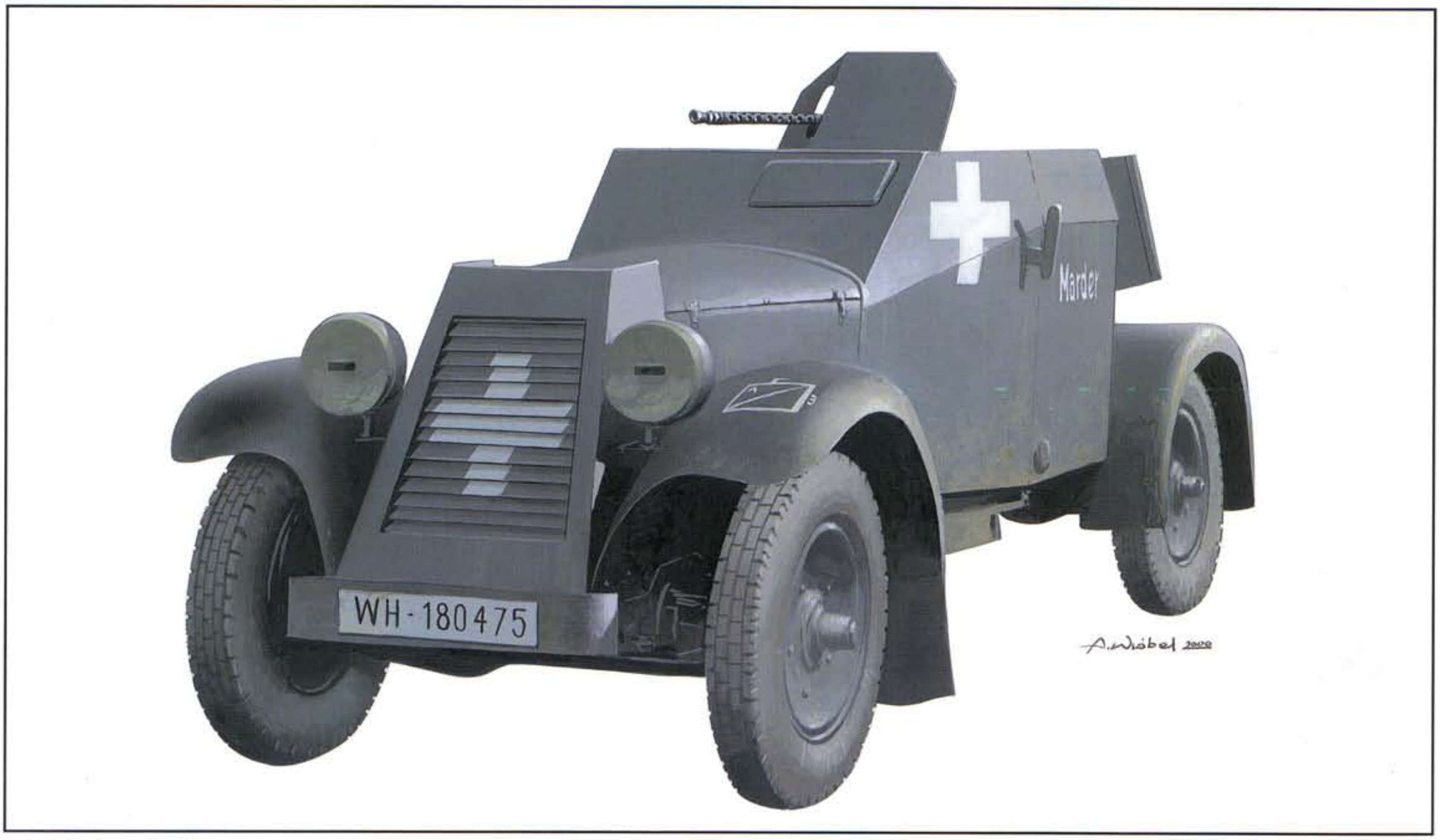
Sd.Kfz.11, unknown unit, Germany, 1936

This early leichte Zugkraftwagen 3-ton Sd.Kfz.11 is painted in the three color camouflage typical for the late period of the Reichswehr and early days of the Wehrmacht and is fitted with the early pattern roadwheels. The camouflage was applied in a regular pattern of dark green, dark gray and light brown lines. The vehicle had a standard Wehrmacht license number 'WH-36137' on the right side of the bumper and a large, white letter 'A' painted on the left mudguard.



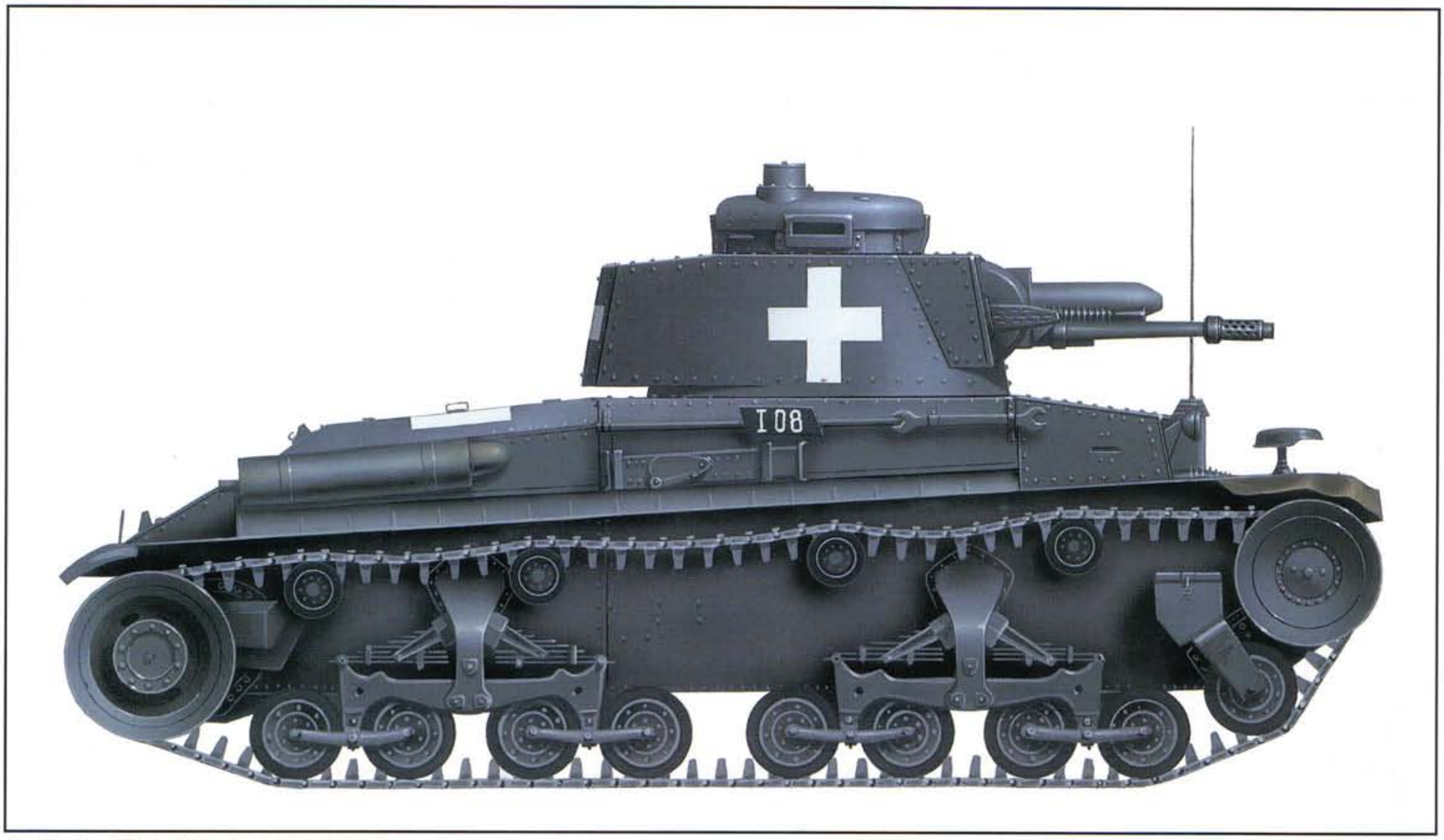
Sd.Kfz.232, Aufkl.Abt.5, 2.Panzer-Division, Austria, March 1938

This schwere Panzerspähwagen (Fu) (Sd.Kfz.232) 6-Rad carried the standard three color camouflage scheme of the period, however, the brown had small splotches and the gray had wavy lines added to them. The other armored cars of this unit were similarly painted. It also had the standard license plate 'WH-36075'.



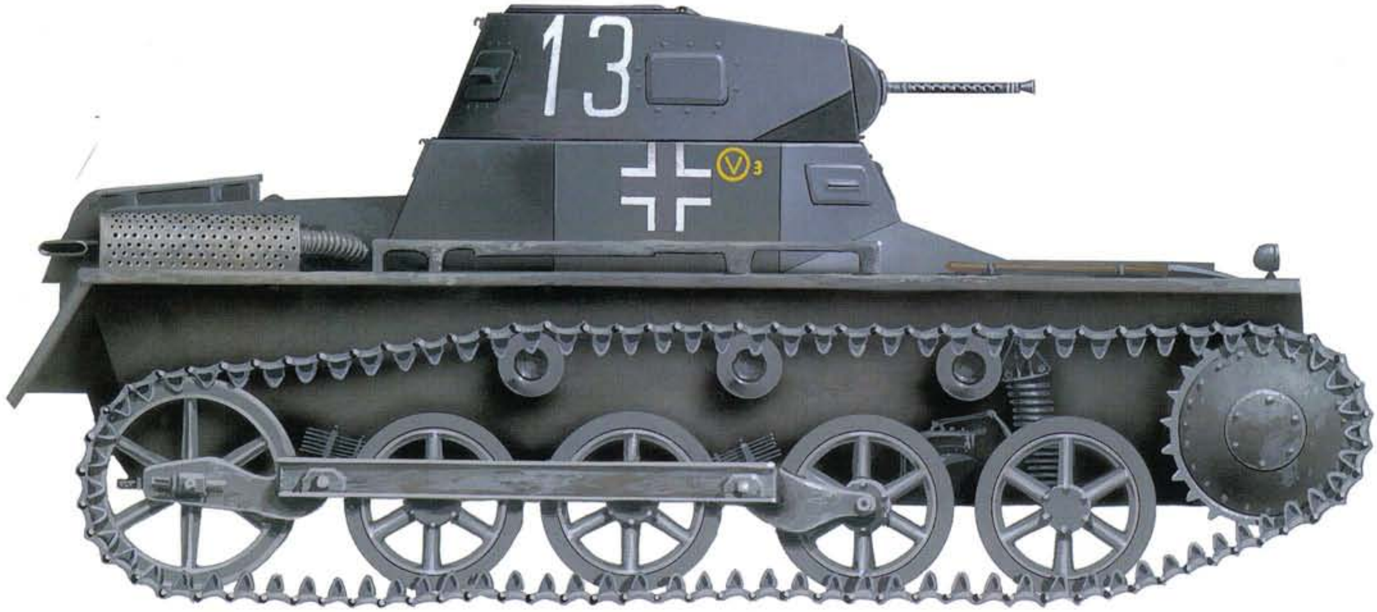
Kfz.13, 3.Aufklärung Schwadron, unknown unit, Poland, September 1939

This Maschinengewehrkraftwagen (Kfz.13), manufactured on the chassis of the Adler Standard 6 passenger car, is painted with overall dark gray and carries the name 'Marder', painted in white, on the side. Other markings include the standard solid white national crosses of the period, license plate number 'WH-180475' and the tactical sign for a reconnaissance unit on the left mudguard.



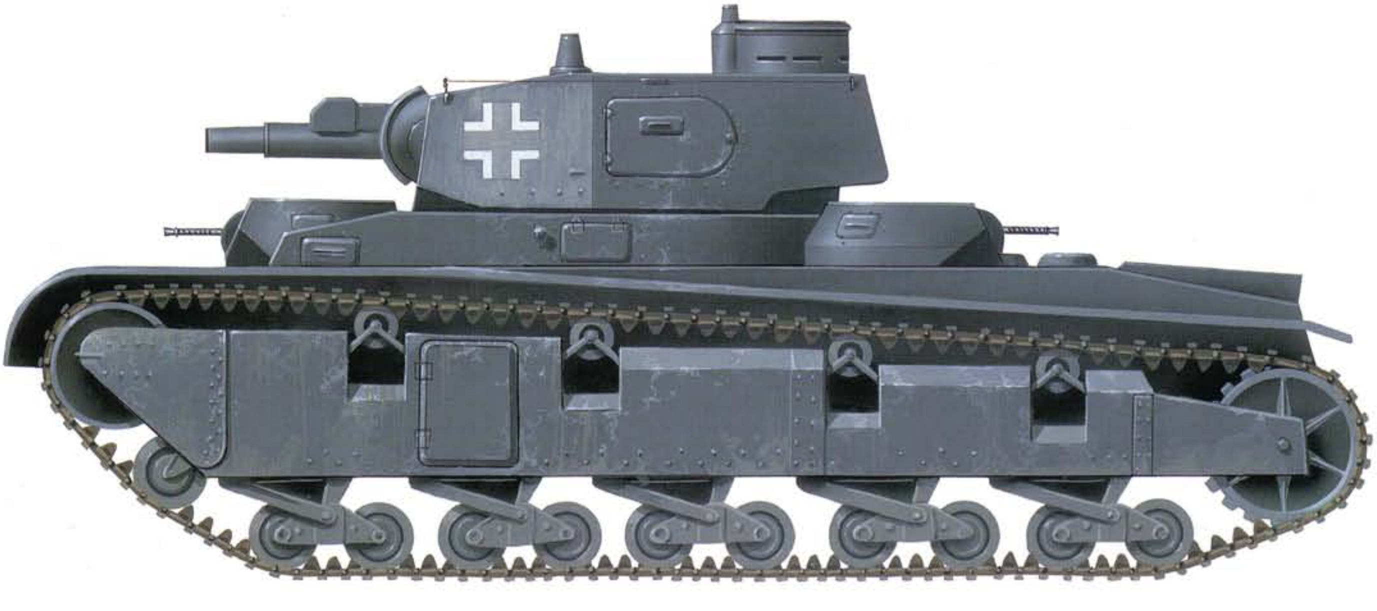
Pz.Kpfw.35(t), I/Pz.Rgt.11, 6.Pz.Brig., 1.leichte Division, Poland, September 1939

This tank was finished in overall dark gray and carried white crosses on the side of the turret and a white air recognition band on the engine deck. Some other vehicles were similarly marked until early 1940 and again in North Africa. The tactical number 'I08', indicating the eighth tank in the battalion staff, is painted on a black rhomboid plate and was fixed to both sides and the rear of the tank.



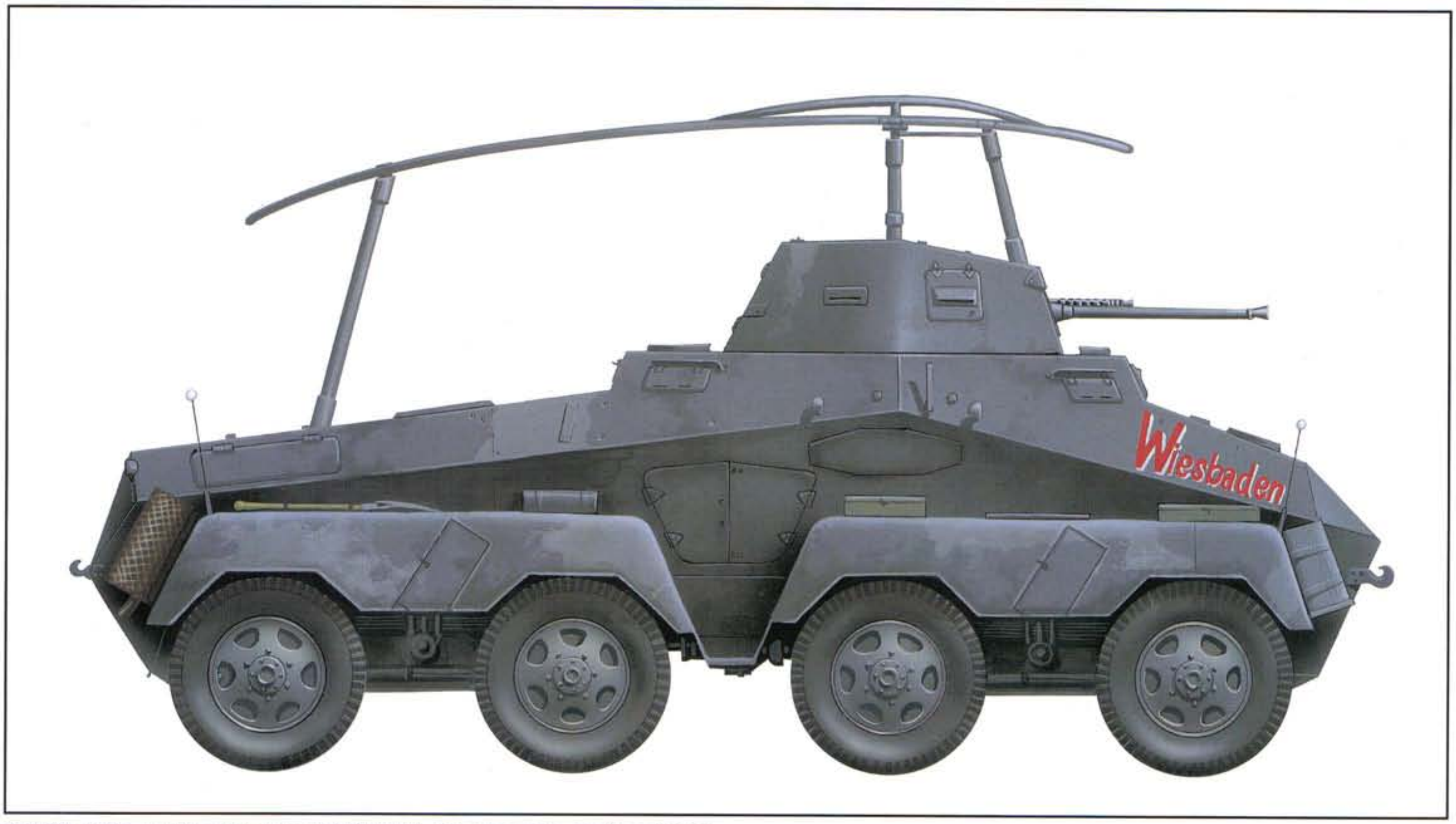
Pz.Kpfw.I Ausf.A, 3.Kompanie/Pz.Abt.z.b.V.40, Norway, April 1940

This vehicle is finished in overall dark gray and displays the unit emblem with a number '3' indicating it is from 3.Kompanie, both painted in yellow. It still has the tactical number, '13', painted in white on the turret, from the unit that was used to create it, 5.Kompanie/Pz.Rgt.15 of 5.Panzer-Division.



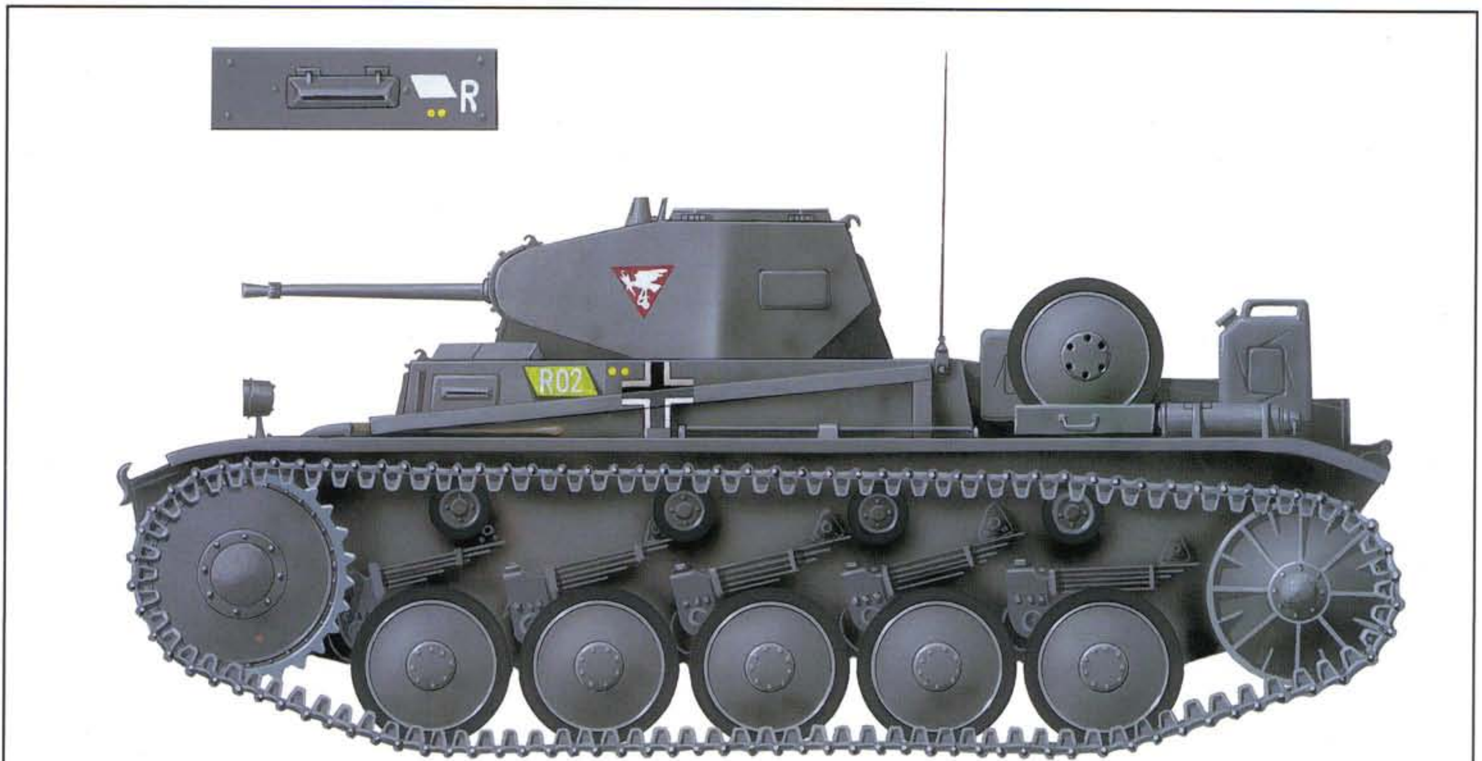
Neubau-Pz.Kpfw.IV, Pz.Abt.z.b.V.40, Norway, April 1940

There were no markings on the three Neubau-Pz.Kpfw.IV shipped to Norway in April, 1940, other than the white outline national cross painted on the sides of the turret and front under the machine gun turret, although at least one vehicle had the head of an elephant painted on the left side of the glacis.



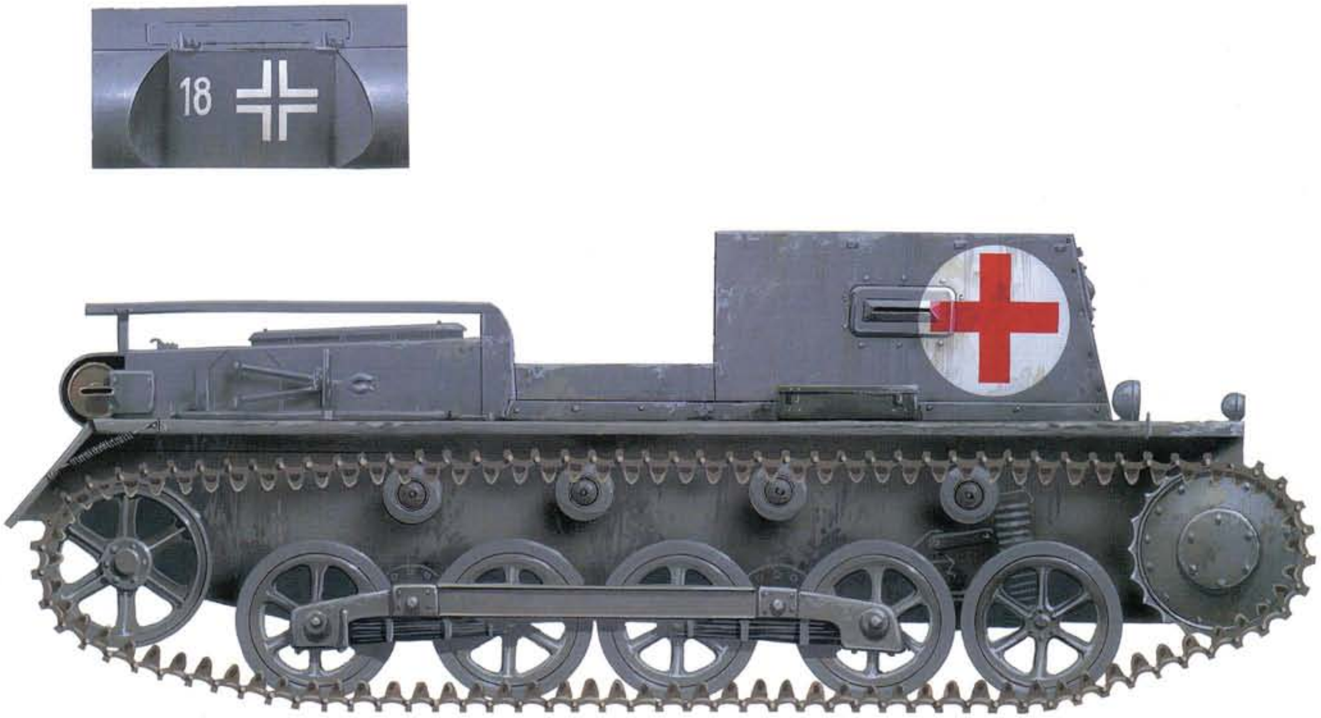
Sd.Kfz.232, unknown Pz.Aufkl.Abt., Germany, spring 1940

The vehicles of this unit carried the names of cities on their vehicles, in this case 'Weisbaden', probably in red, with a white shadow. It was painted in the standard dark gray but seems to have had a camouflage spray of another color, possibly a lighter gray, covering the national crosses and in a random spot pattern over the rest of the vehicle. The standard Wehrmacht license plate number 'WH-261793' is painted in black on a white background with a black border.



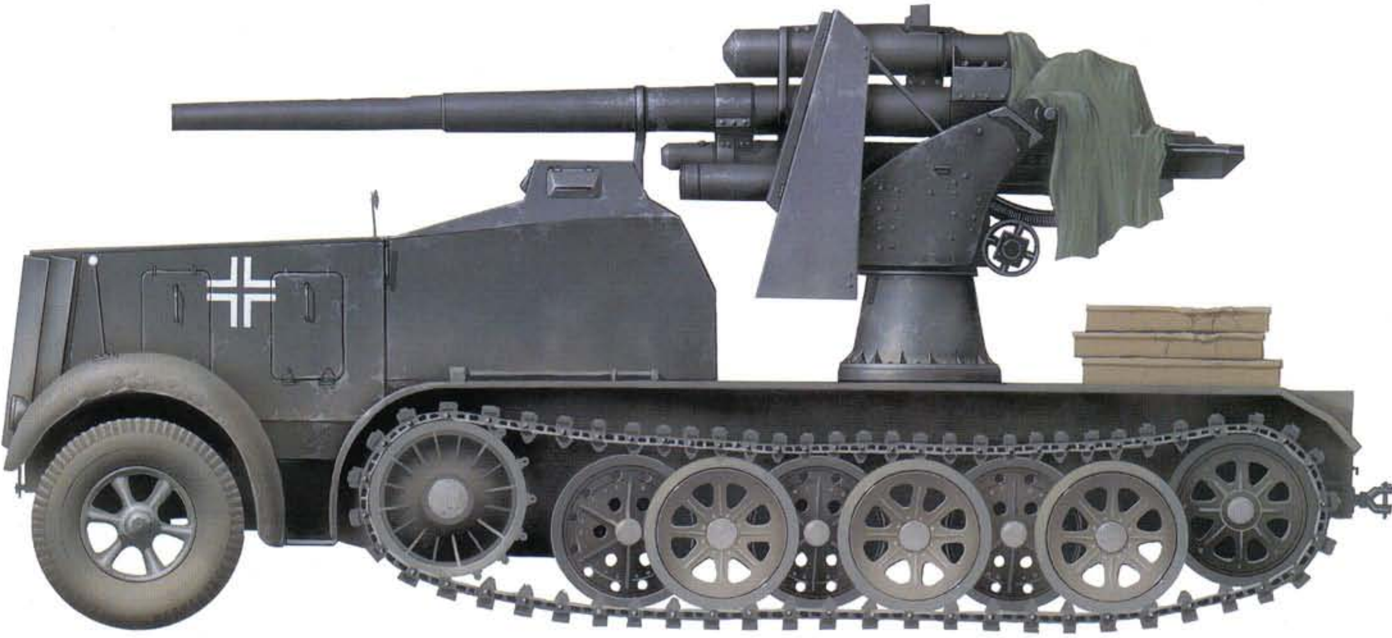
Pz.Kpfw.II Ausf.A-C, Pz.Brig.2, 2.Panzer-Division, France, spring 1940

This tank belongs to the regimental staff of one of 2.Panzer-Division's two Panzer-Regiments, either Pz.Rgt.3 or Pz.Rgt.4. It carries a full set of regulation markings including two dark yellow dots, which was the tactical sign for 2.Panzer-Division, and the tactical number 'R02' painted in white on a dark yellow rhomboid metal plate. A white rhomboid tactical sign for a Panzer-Division has been painted on the front plate with the regimental 'R' beside it. A unit emblem is painted on the side of the turret, a white eagle in flight carrying a top hat in its talons and an umbrella in its beak, painted on an alternate color triangle, possibly red. The national cross is unusual in that it has a thin black outline painted outside the white.



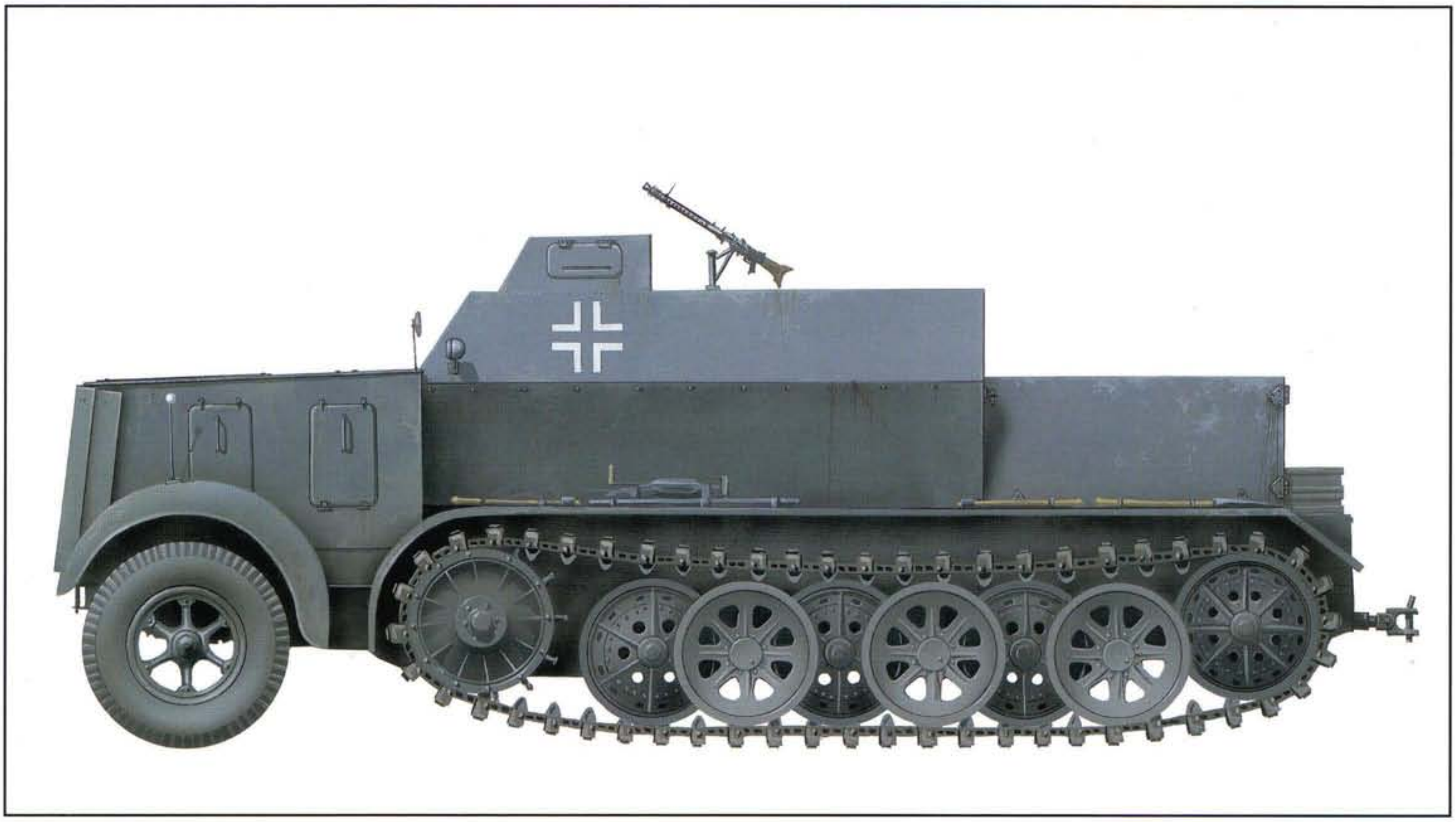
Instandsetzungskraftwagen I Ausf.B, Pz.Rgt.1, 1.Panzer-Division, France, May 1940

This light armored repair and recovery vehicle has been converted for use as an ambulance to transport wounded men from the battlefield. It is painted in overall dark gray and carried large Red Cross emblems on the sides and front of the superstructure along with a white outline national cross and tactical number '18' on the front of the lower hull.



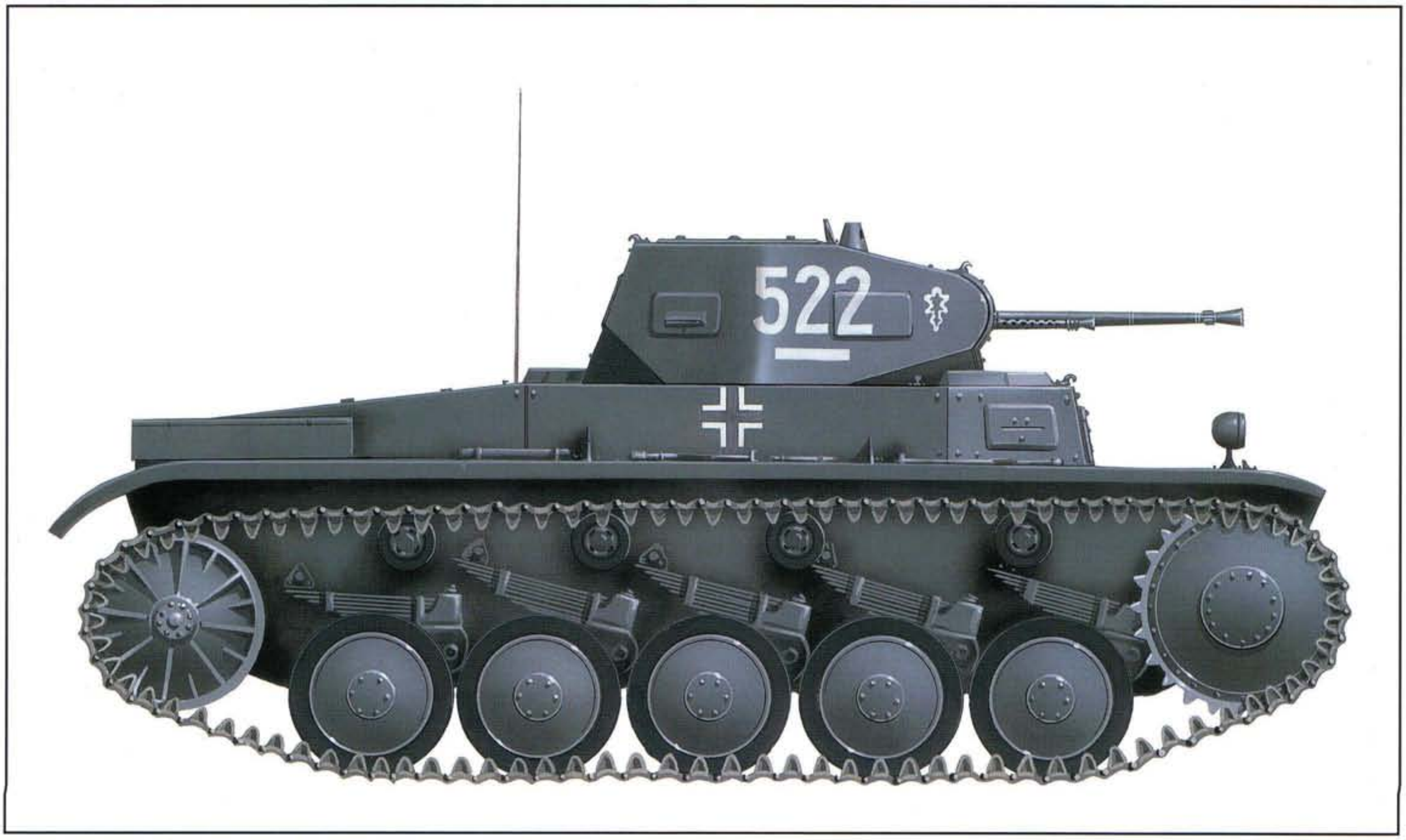
8.8cm FlaK18(Sfl) auf Zgkw 12t (Sd.Kfz.8), s.Pz.Jg.Abt.8, France, May 1940

These heavy anti-tank vehicles were all painted in overall dark gray. Markings were limited to the white outline national cross on each side, two standard Wehrmacht license plates on the front bumper and a white 'K' on the right mudguard identifying them as belonging to Panzer-Gruppe von Kleist.



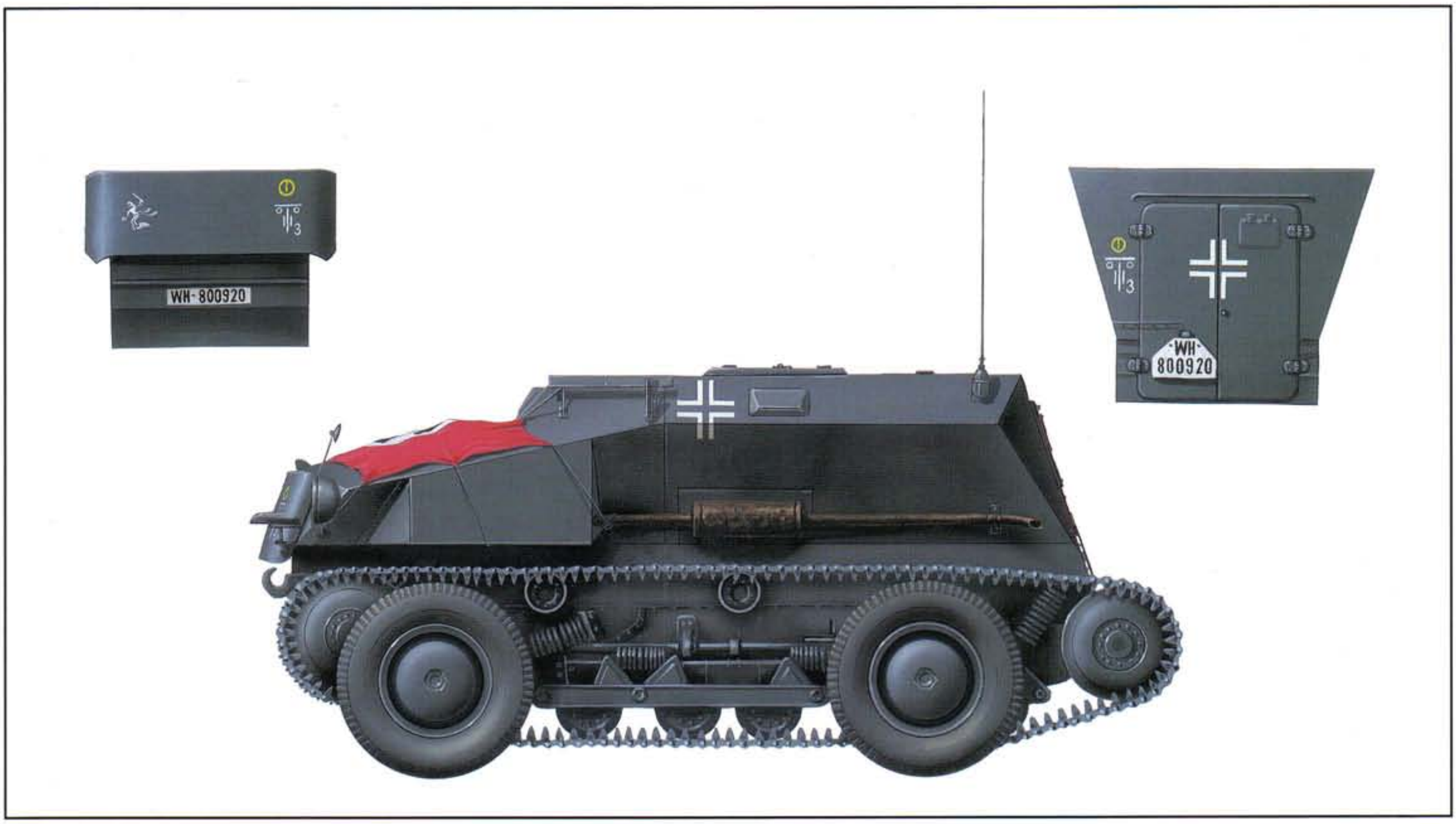
Gepanzerte Zugkraftwagen 8t (Sd.Kfz.7), unknown s.Pz.Jg.Abt., France, May 1940

This specially modified and armored Zgkw 8t was produced in small numbers and issued to the Panzerjägerabteilung equipped with the 8.8cm FlaK18 as an armored gun tractor. The overall dark gray paint scheme and markings were typical for this period.



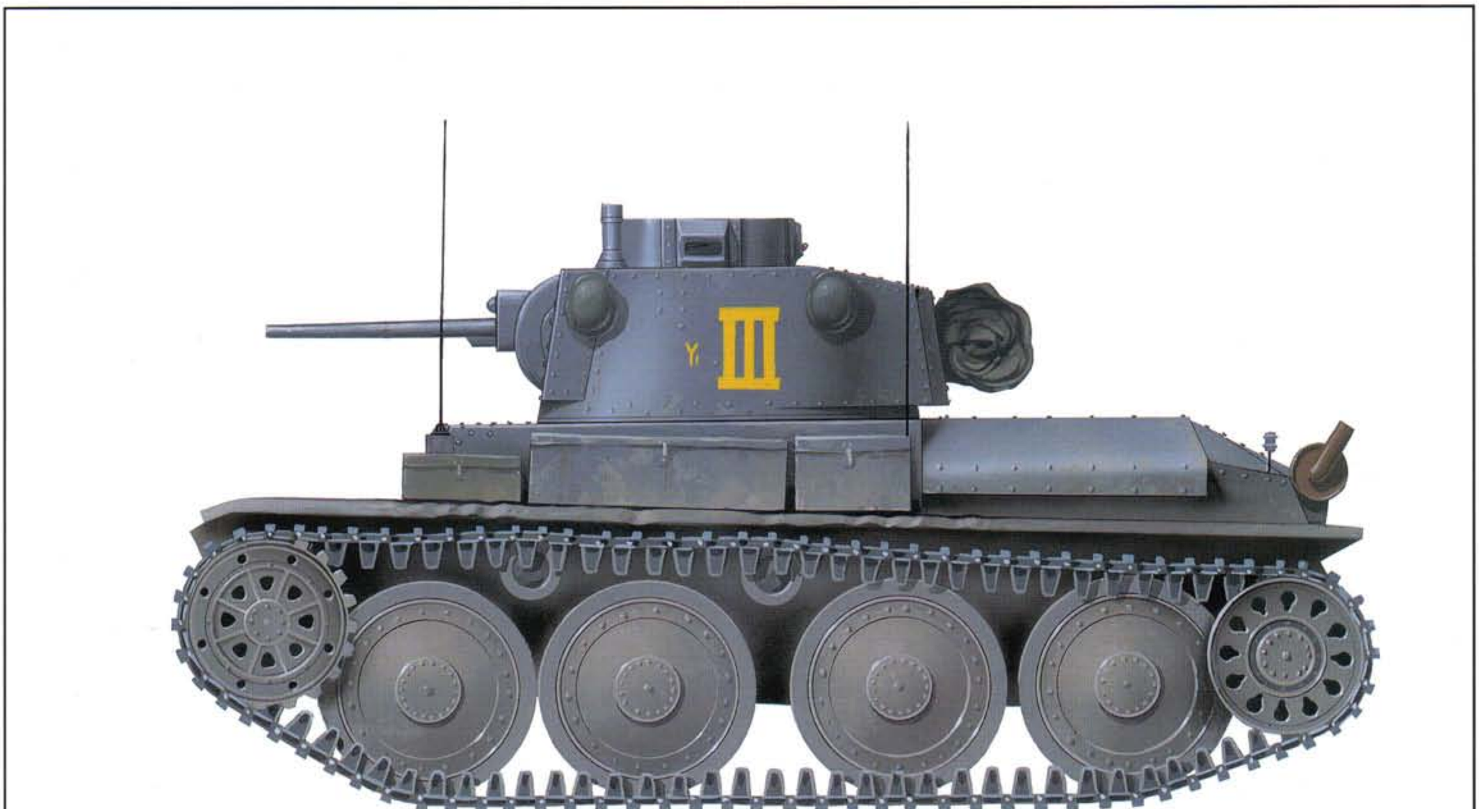
Pz.Kpfw.II Ausf.A-C, 5/Pz.Rgt.2, 1.Panzer-Division, France, summer 1940

This tank is finished in overall dark gray and has a white outline national cross on the side of the hull, white tactical number '522' over a white horizontal bar, indicating it from Pz.Rgt.2, and the divisional oakleaf emblem painted on the side of the turret.



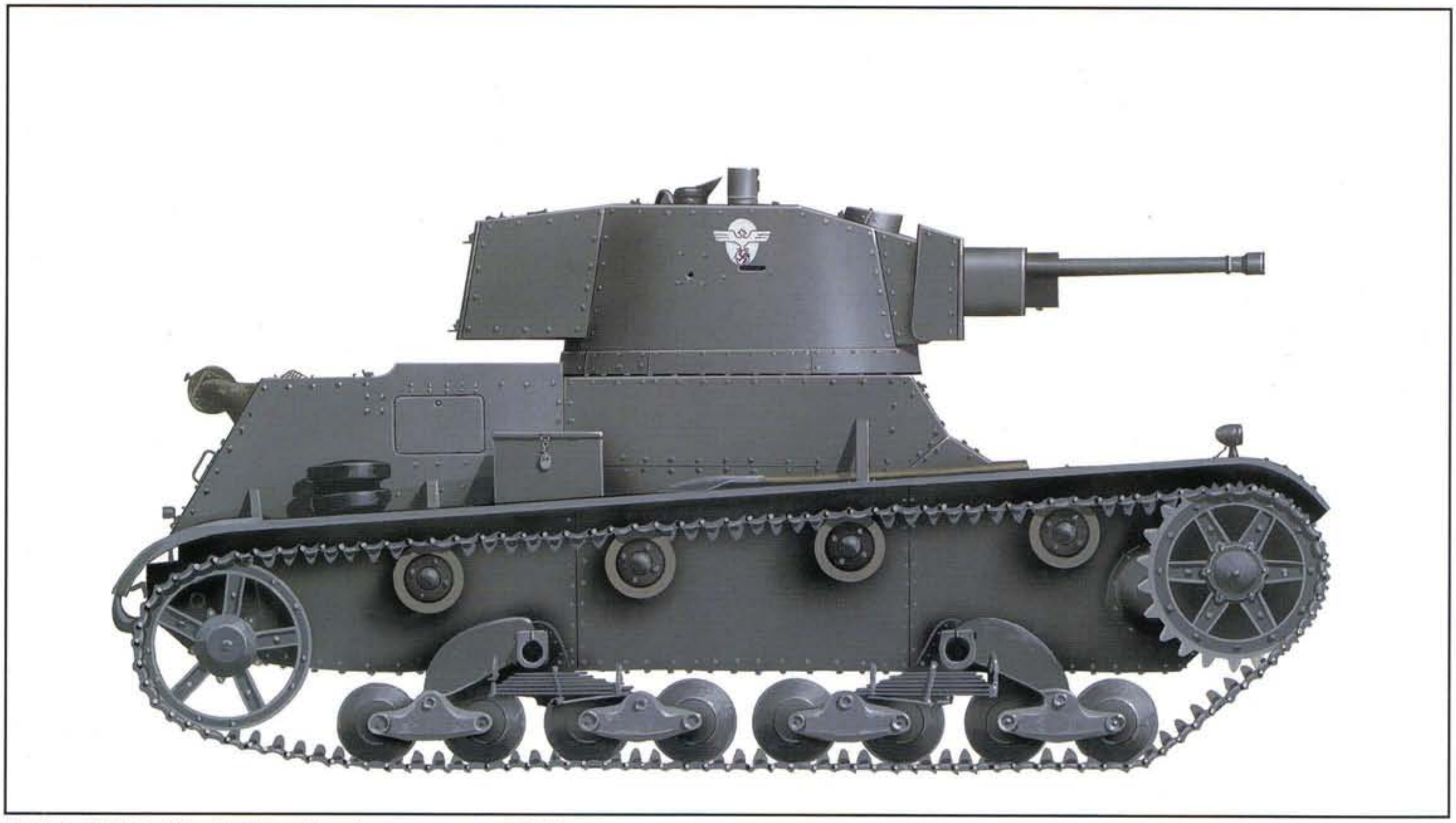
Sd.Kfz.254 m.gep.Beob.Kw (Saurer RK7) I/Art.Rgt.119, 11.Panzer-Division, Yugoslavia, April 1941

This vehicle carried a full set of markings including the divisional emblem painted in yellow plus the unofficial divisional emblem, a ghost wielding a raised sword, painted in white. In addition, the tactical sign for 3.Kompanie of a motorized artillery battalion was painted on the front and rear along with the vehicle license number 'WH-800920'. White outline national crosses were applied to both sides.



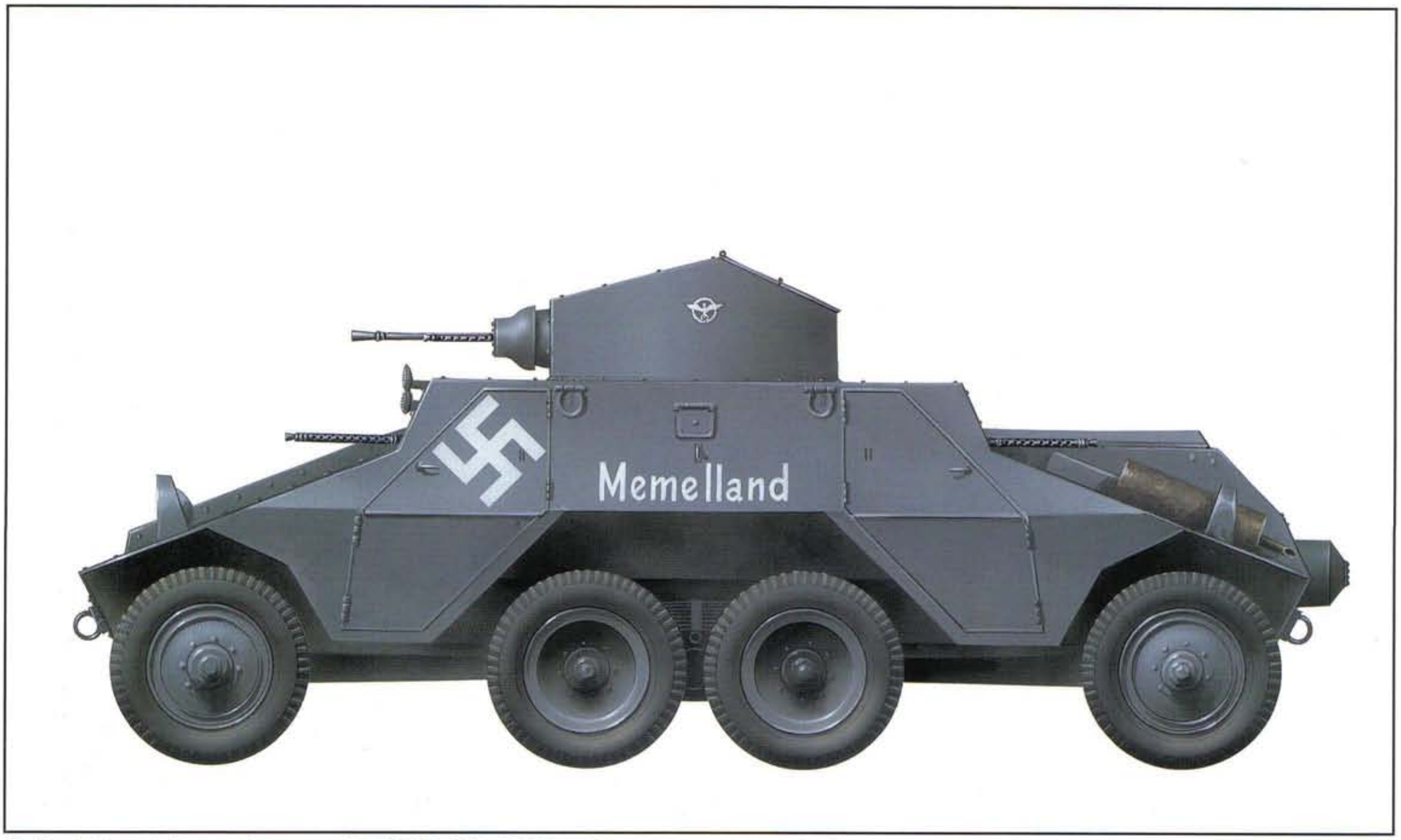
Pz.Kpfw.38(t) Ausf.B, III/Pz.Rgt.10, 8.Panzer-Division, Russia, summer 1941

This tank, used by III.Battalion staff, was finished in overall dark gray and carried large, colorful Roman numeral tactical markings, typical for Operation 'Barbarossa'. The divisional emblem, also in yellow, was painted in front of the tactical number and was repeated on the plate over the former location of the bow machine gun.



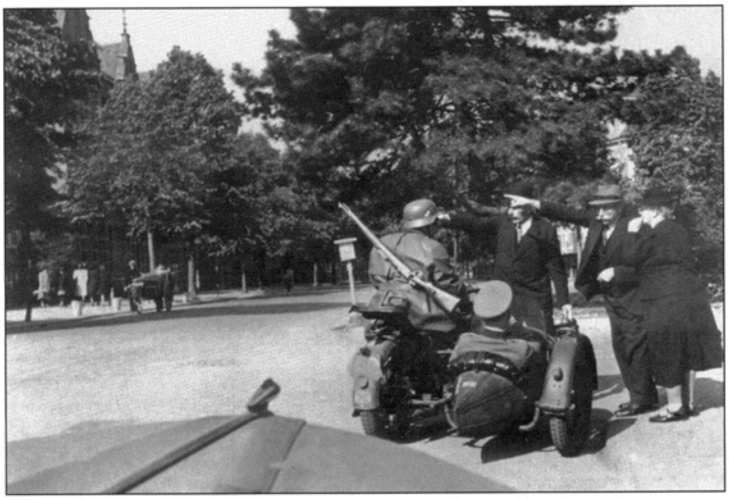
Polish 7TP, Pol.Rgt.Mitte, Russia, summer 1941

Polish 7TP tanks captured by the Germans during the war against Poland in September 1939 were later incorporated into the Ordnungspolizei. They were repainted in the standard dark gray and marked with one or two prominent national crosses on the front and back and the ORPO emblem on each side of the turret. This tank was utilized against Soviet partisans in the middle sector of the Eastern Front in the summer of 1941.

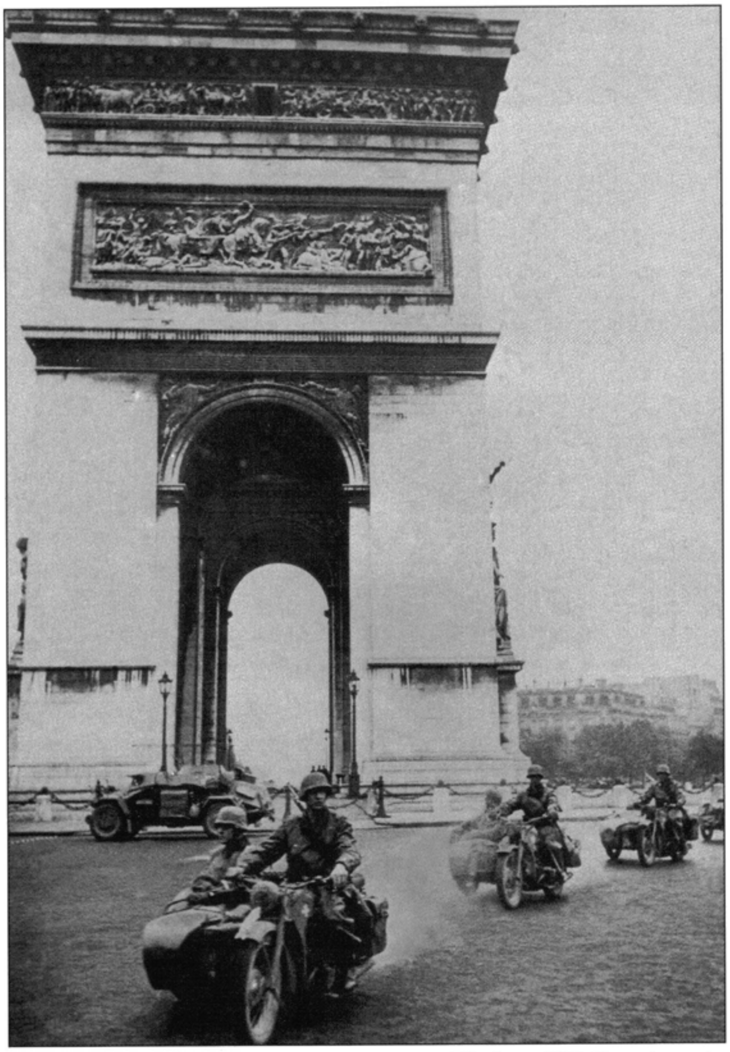


Polizei-Panzerkampfwagen ADGZ, Pol.Rgt.Mitte, Russia, summer 1941

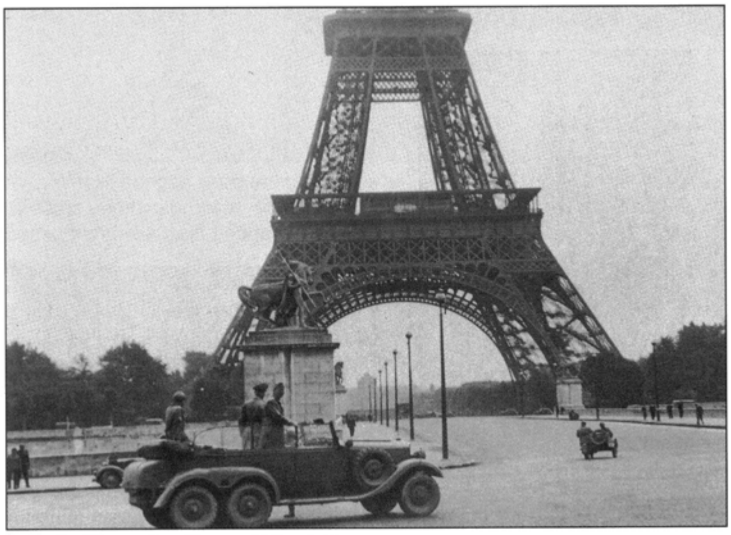
This overall dark gray Steyr ADGZ armored car carried large swastikas and the name 'Memelland' painted in white on each side. The ORPO emblem was painted on the side of the turret, typical for most combat vehicles of this service during this period.



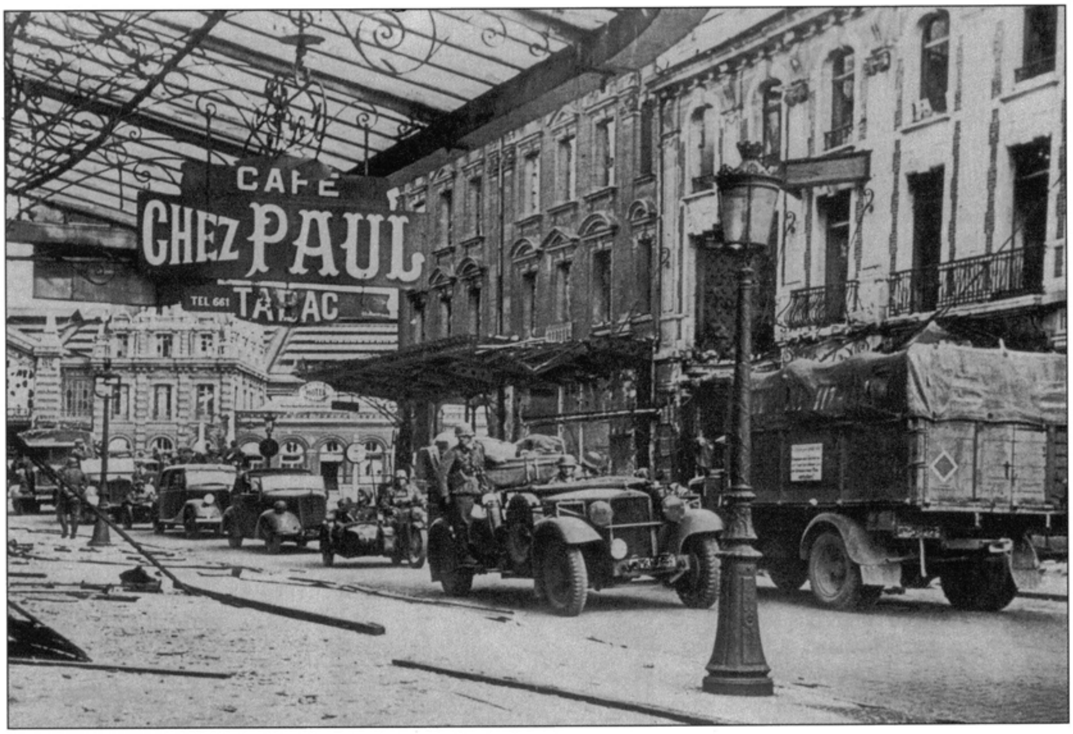
German soldiers on a BMW R11 motorcycle combination get directions from Dutch civilians in Amsterdam, June 1940. The sidecar, though distinctly civilian in appearance, has a WH number painted on the back side, though the number is indistinguishable. The censor has thoughtfully obliterated the license number from the rear of the motorcycle, but has left a marking that appears to be a dark colored 'X' in a light colored rectangle of unknown meaning, painted on the bottom of the mudguard.



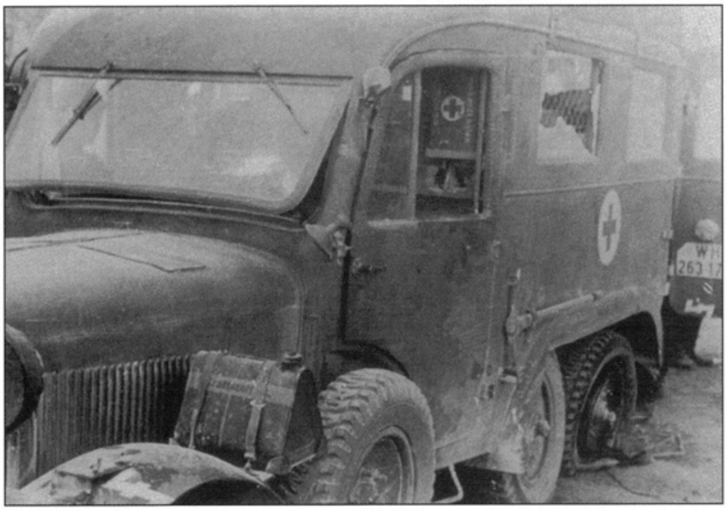
A motorcycle reconnaissance troop on Zündapp KS600 motorcycle combinations pass the Arc de Triomphe in Paris in mid-June 1940. An illegible tactical sign has been painted on the side of the frame below the fuel tank on each one. In the background, a leichte Panzerspähwagen (Sd.Kfz.223) can be seen with its frame antenna in the raised position.



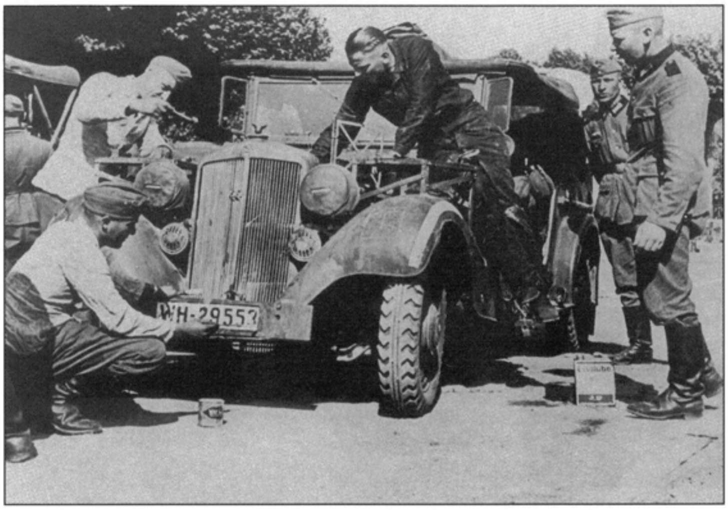
A Mercedes-Benz G4 staff car approaches the Eiffel Tower over the Pont d'Iena in June 1940 during Hitler's victory tour of Paris. These vehicles were rather rare in frontline units and were usually reserved for higher staff levels. The most famous example of this vehicle was, of course, the one used by Hitler. This one is finished in overall dark gray.



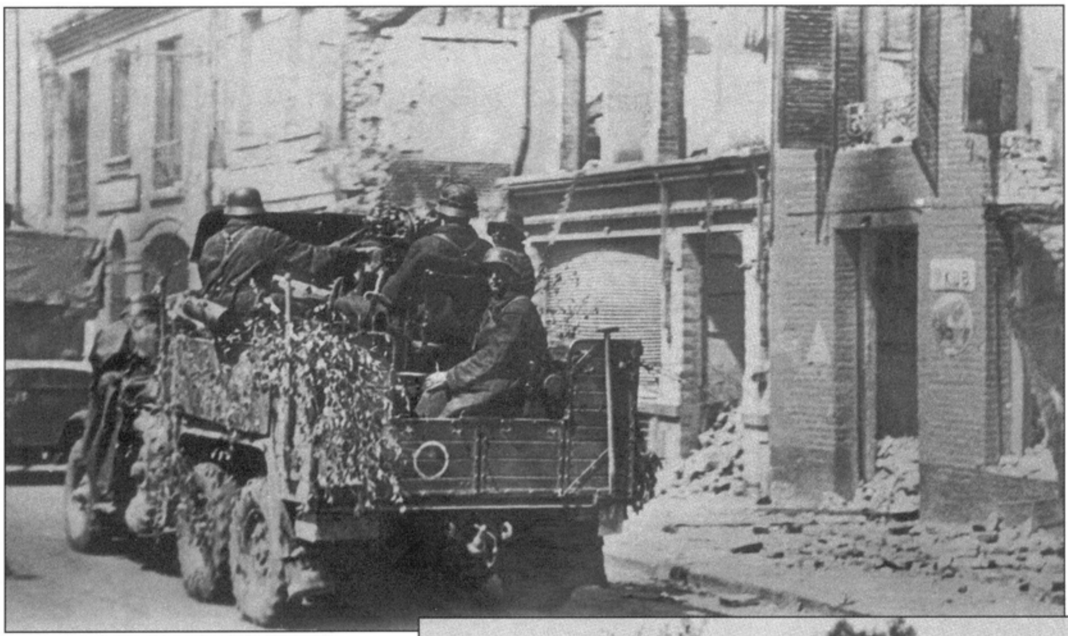
A column of various soft-skin vehicles led by a Wanderer Kfz.11 travels through the damaged streets of Arras in May 1940. The vehicle on the right is an Opel Blitz S-type 3-ton truck.



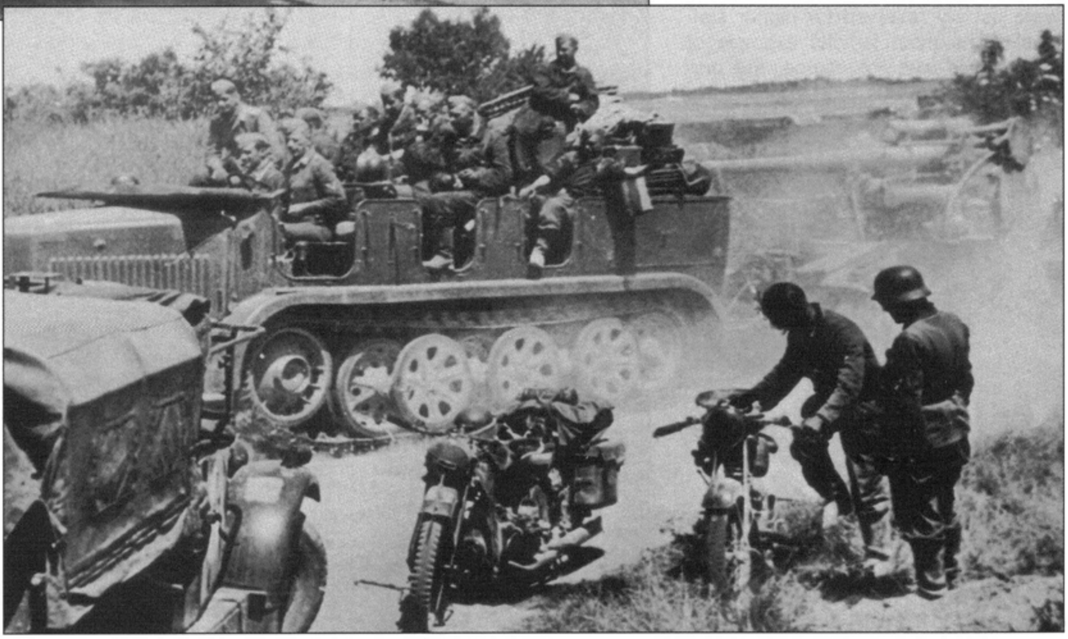
A German Steyr 640 Kfz.31 ambulance shot up by French troops in early June 1940. The Red Cross signs on sides and rear door are not very prominent which probably contributed to the mistaken identity. The front mudguard and rear door carry the emblem of Pz.Rgt.8 which at that time was one of the two Panzer-Regiments attached to 10.Panzer-Division.



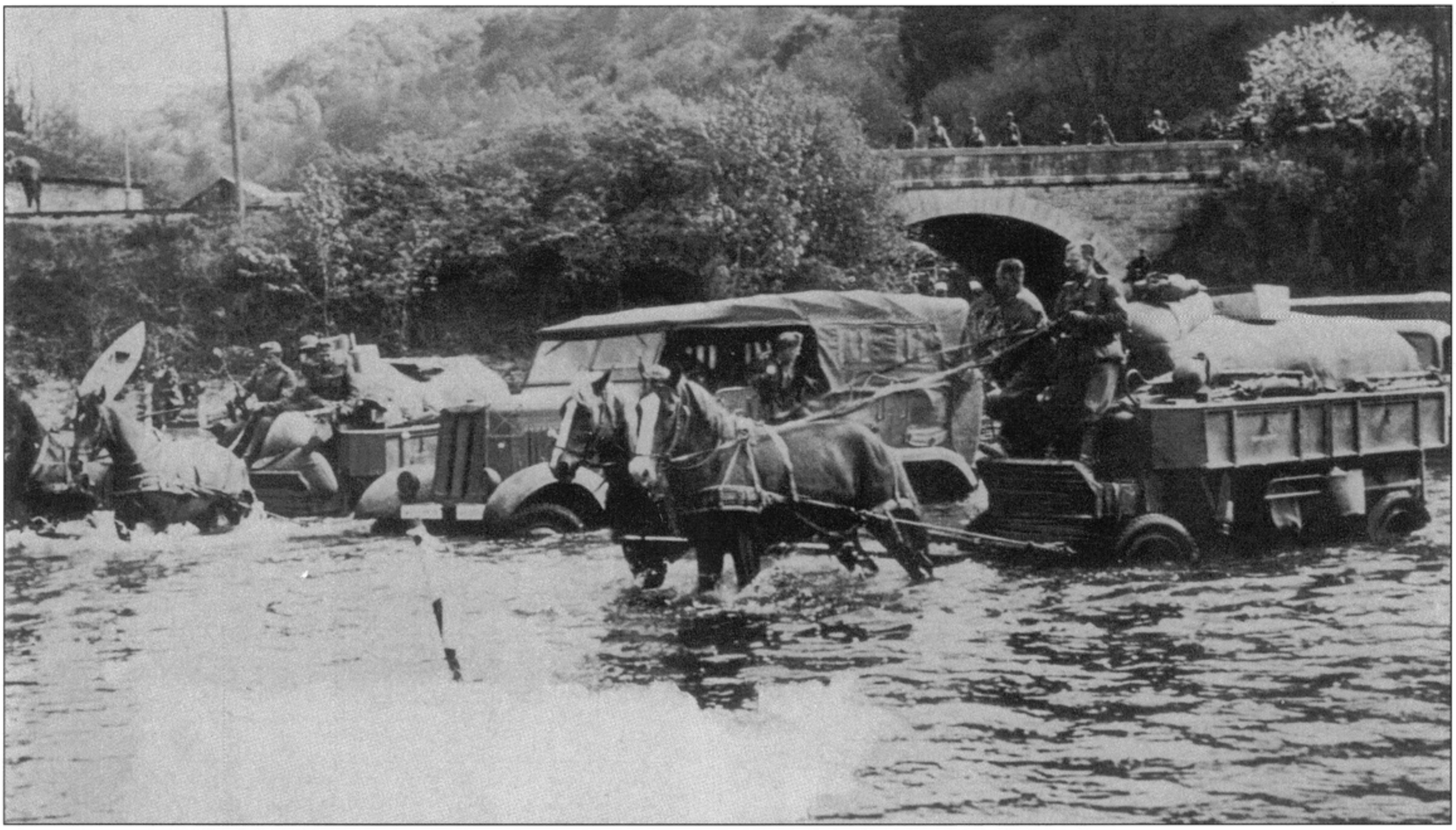
Vehicle maintenance and repairs being carried out in a field workshop at Montceau-les-Mines in July 1940. The tactical sign painted in yellow on the left mudguard indicates the vehicle belongs to the 5.Batterie of a towed artillery regiment. White road width markings are also painted on each mudguard and the vehicle registration number, 'WH-29553', is being repainted on the front. The purpose of the metal frames on top of the mudguards is not clear, however, they may have been for stowing additional fuel cans. This car is a Horch 830 B1 Kfz.15.



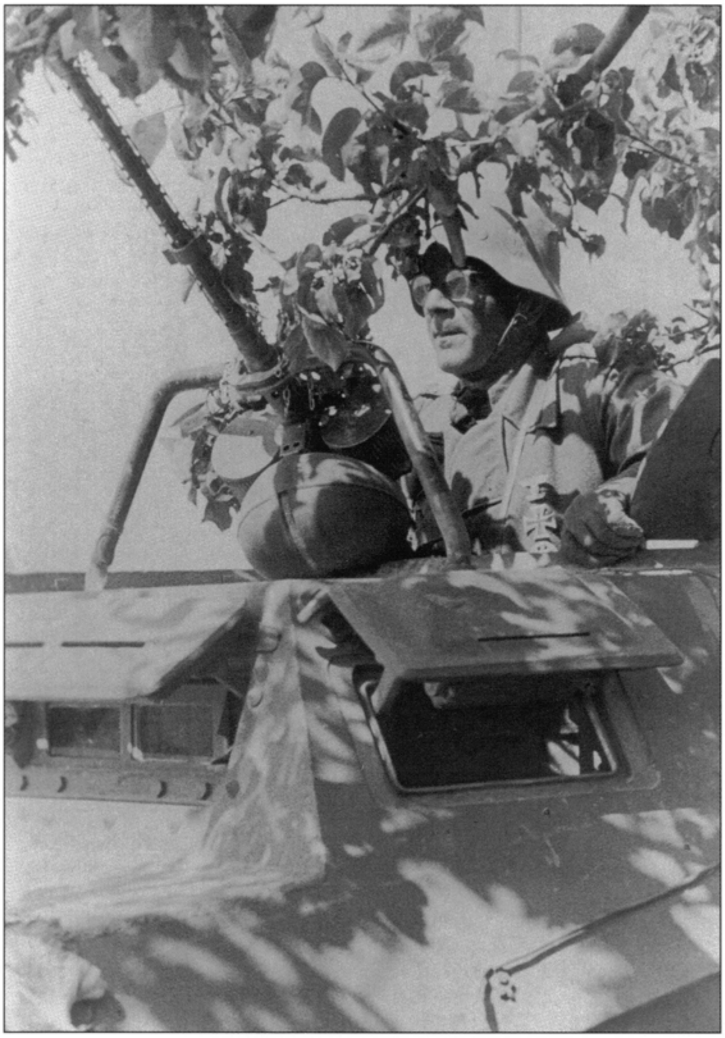
A Krupp Protze L2H143 Kfz.81 light truck mounting a 2cm FlaK30 of Regiment 'General Göring' passing through the ruins of Montcornet at the beginning of June 1940. The Regiment had its beginnings in 1933 as a police unit. It took part in the Austrian Anschluss in 1938 and after that, was reorganized as primarily an anti-aircraft unit until a rifle battalion was added in April 1940. The white circle on the rear of the truck indicates it is attached to the regimental staff.

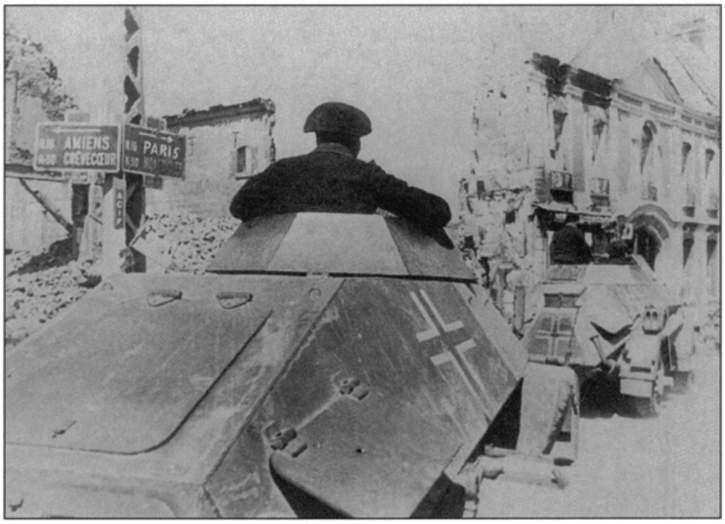


An Sd.Kfz.7 half-track prime mover towing an 8.8cm FlaK18, negotiates a tight corner on a narrow, dirt road in France. Traffic control in the rear areas in support of a major offensive was a great challenge where the passage of several thousand vehicles necessitated strict control. Pre-war field exercises were very useful and lessons learned under actual battle conditions in Poland were to prove beneficial during the battle for France. Here the soldier in the rear of the half-track appears to be signaling oncoming traffic to halt.



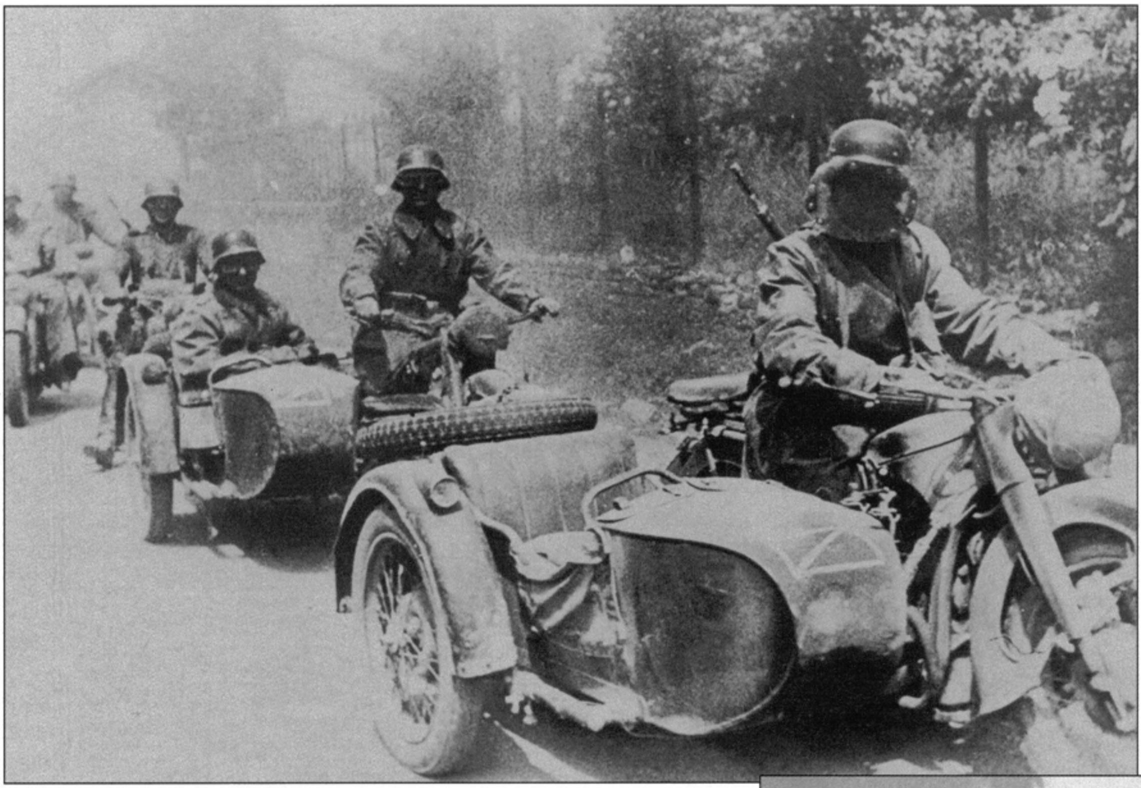
Where bridges were unable to sustain a high volume of traffic, German transport vehicles were forced to find convenient fording points across shallow streams and rivers. Here, several horse drawn wagons, an Sd.Kfz.7 half-track and other small transports are fording a river likely because the bridge in the background is a train bridge making the river crossing more convenient.



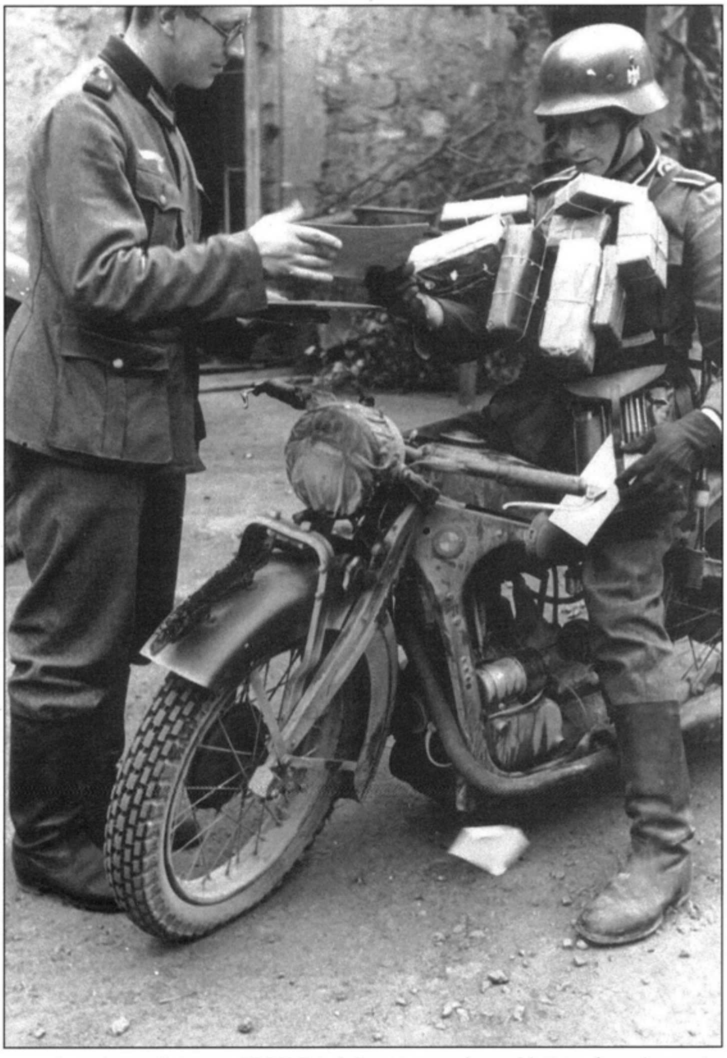


A pair of light armored cars make their way through a destroyed French town south of Amiens in June 1940. The leading vehicle is an Sd.Kfz.222 while the one closest to the camera is an Sd.Kfz.221. The Sd.Kfz.221, armed with only one MG34 machine gun, was only produced up to May 1940 and so was obsolete by this time. Despite this weakness, it was utilized until 1942, when it was uparmed with the sPzB41 mounted in a modified fixed turret.

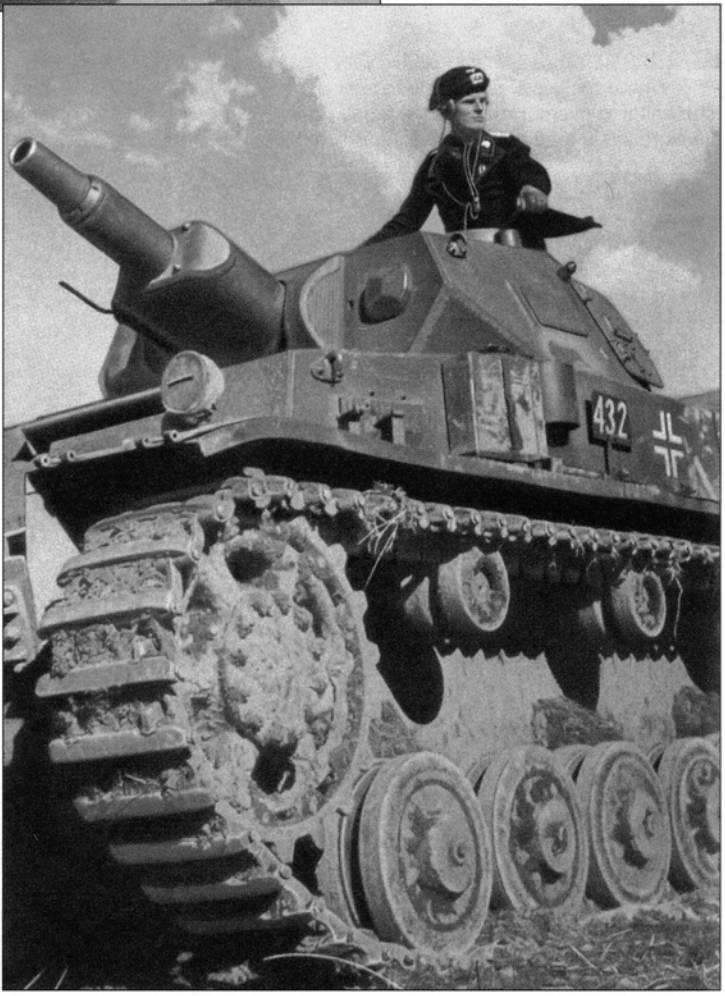
The commander of this Sd.Kfz.253 leichte Gepanzerter Beobachtungskraftwagen scans the terrain ahead of his vehicle, ready for action with his MG15. The MG15 and its mount were likely taken from a downed Luftwaffe aircraft and improvised for use on the half-track by a field workshop. A total of 285 of these vehicles were built between March 1940 and June 1941 to support the Sturmgeschütz battalions, but many of them found their way to other units as well. His decorations include a WWI Iron Cross First Class with the 1939 clasp above it denoting a subsequent award of this decoration. Just below it can be seen the top of the General Assault Badge awarded for assaults made on three different days.



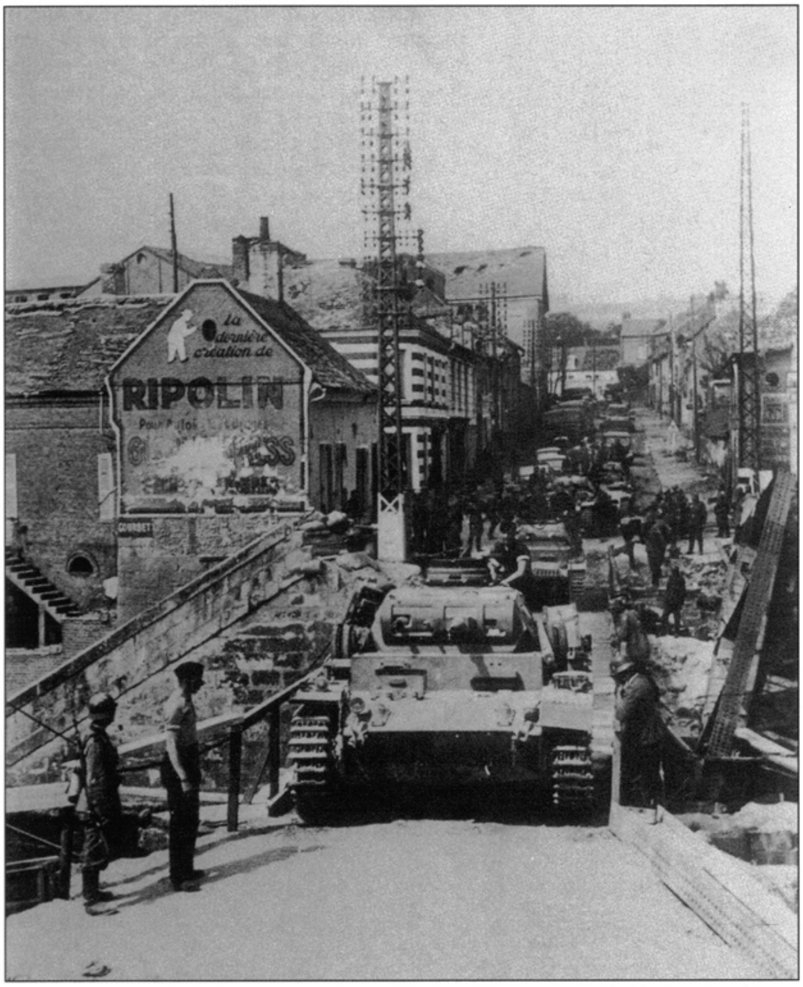
A column of motorcycles led by two BMW R12 combinations, traveling in France in late June 1940. The tactical sign painted on the sidecars is that of a cavalry division which would indicate they belong to 1.Kavallerie-Division, the only Wehrmacht mounted unit at the time. Interestingly, the man on the front machine appears to wearing some sort of large, oval face shield instead of the standard issue goggles worn by the remainder of the men.



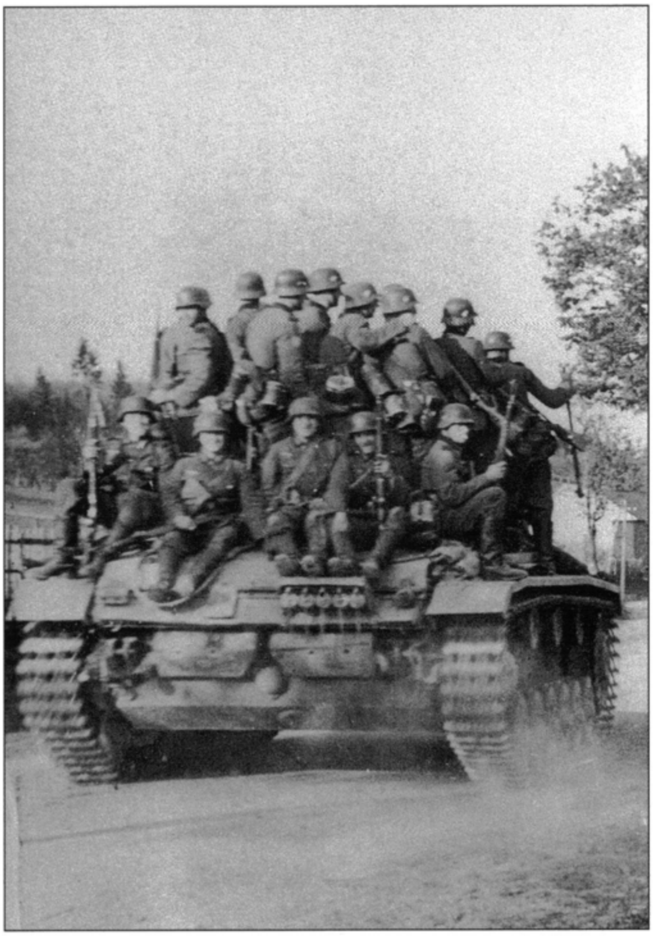
A motorcyclist on a BMW R4 delivers parcels and letters from home to the frontline troops, June 1940.



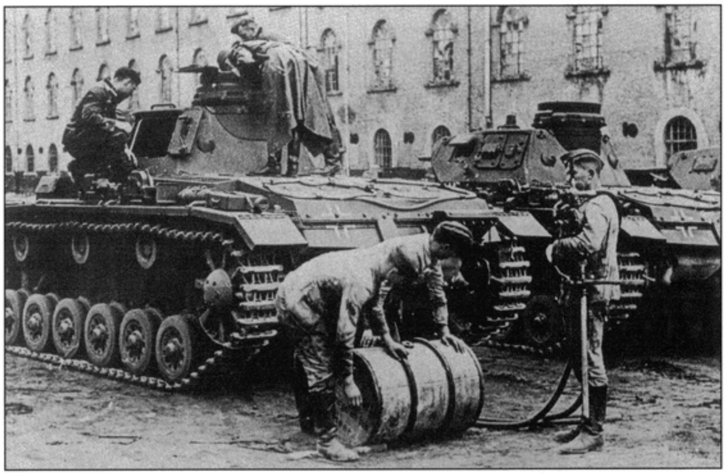
A well known photo of a Pz.Kpfw.IV Ausf.B/C from Pz.Rgt.7 of 10.Panzer-Division. It is taken from an original color post card entitled 'Panzerschütze' and it is interesting to note that the Pz.Rgt.7 Bison emblem is outlined, not in white, but in light blue. The tactical number '432', painted in white on a black rhomboid metal plate, indicates it is the second tank in the third platoon of the fourth company. The early style Panzer beret and the Iron Cross Second Class ribbon would indicate the photo was taken sometime after the defeat of Poland in 1939.



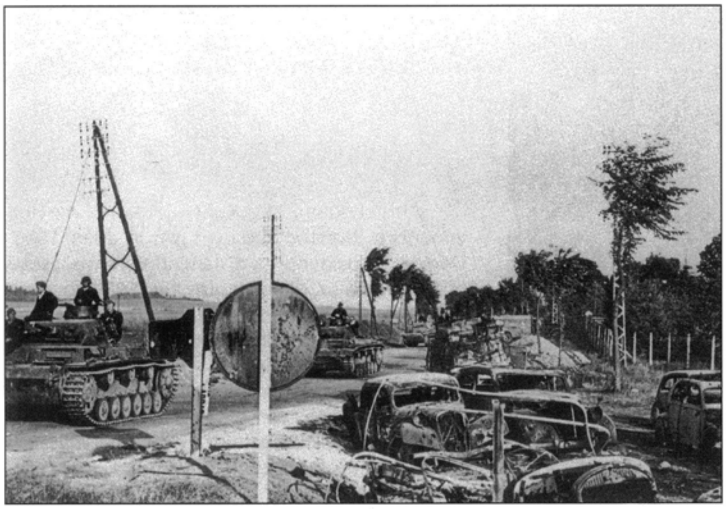
A column of tanks and softskin vehicles cross a temporary bridge erected over the ruins of the original bridge somewhere in France in mid-June 1940. The lead tank is a Pz.Bef.Wg.III Ausf.E, identifiable by the ball mount machine gun on the right side of the mantlet. There were 244 Pz.Bef.Wg. of all types in service at the beginning of May 1940. Unfortunately, there are no visible markings to identify the division they belong to.



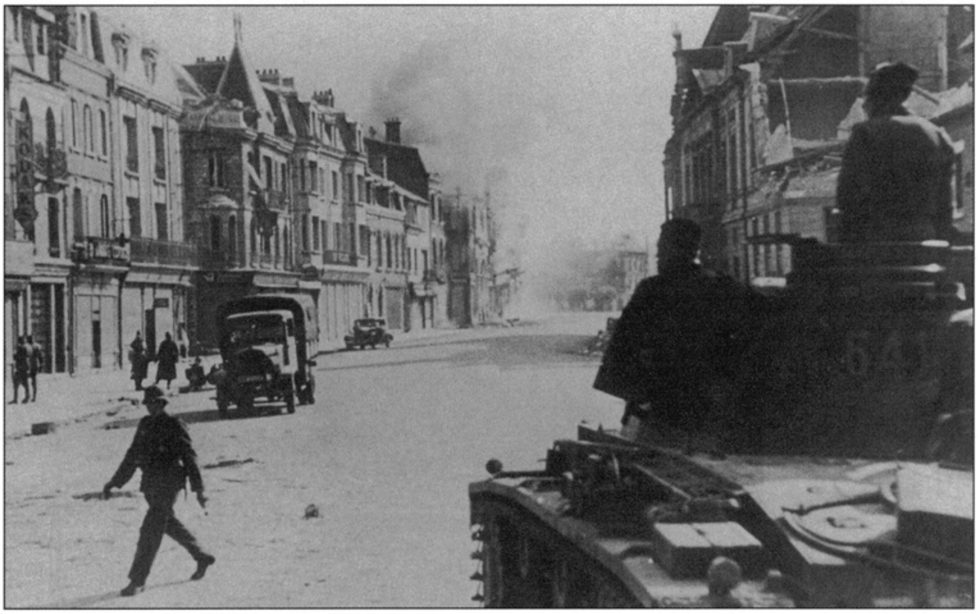
An infantry squad catches a ride on a Pz.Kpfw.III Ausf.F in France in early June 1940, a common practice throughout the war. Unusually, the rear Notek convoy light and tail light have been relocated from their normal position on the mudguard to the rear plate. The apparatus below the men's feet is a smoke candle rack that was operated from within the vehicle.



Pz.Kpfw.III Ausf.E being refueled from 200 liter drums at a new kaserne in occupied France after hostilities have ceased. Other than the white outline national cross, no markings are evident. In early 1940, the lowest organizational level in the Panzertruppe was the Zug, or platoon. In the leichte Panzer-Kompanie, there were normally five Pz.Kpfw.I or II in 1 or 2.Zug and three Pz.Kpfw.III in 3 or 4.Zug.

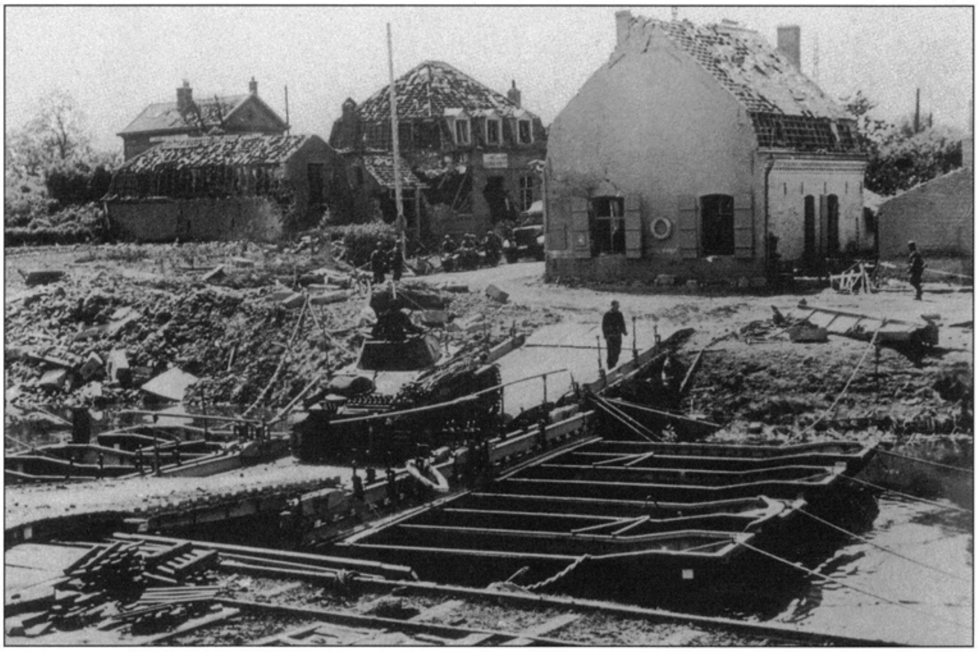


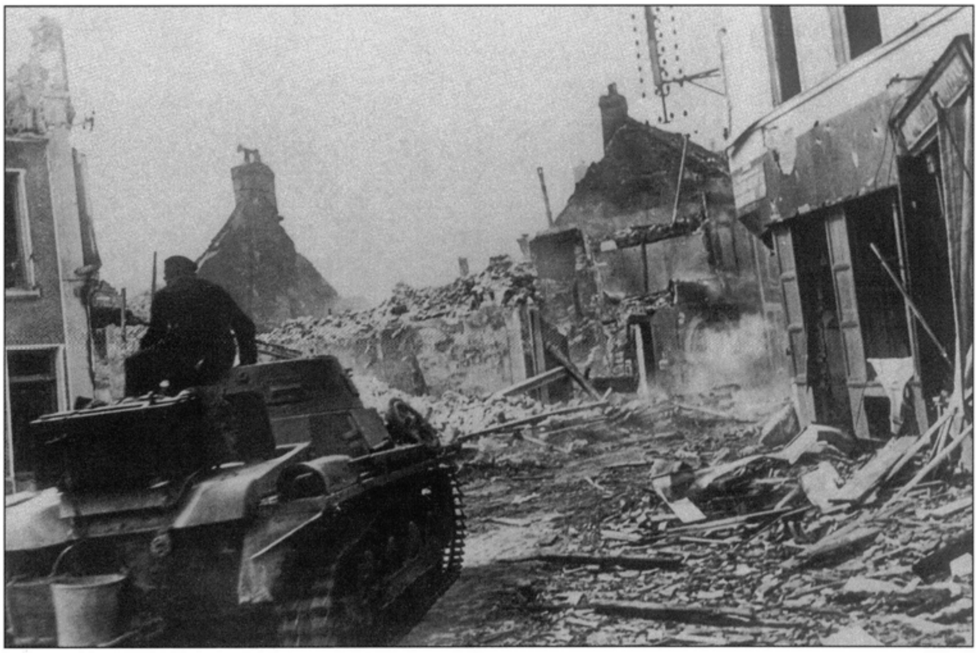
A column of German tanks passing by the remains of a French motorized column which has been demolished by Luftwaffe attacks during their retreat at the end of May 1940. Both the lead tanks are Pz.Kpfw.III Ausf.E while in the background, a Pz.Kpfw.II is visible. From the visible part of the directional sign, the location would appear to be in the vicinity of Arras.



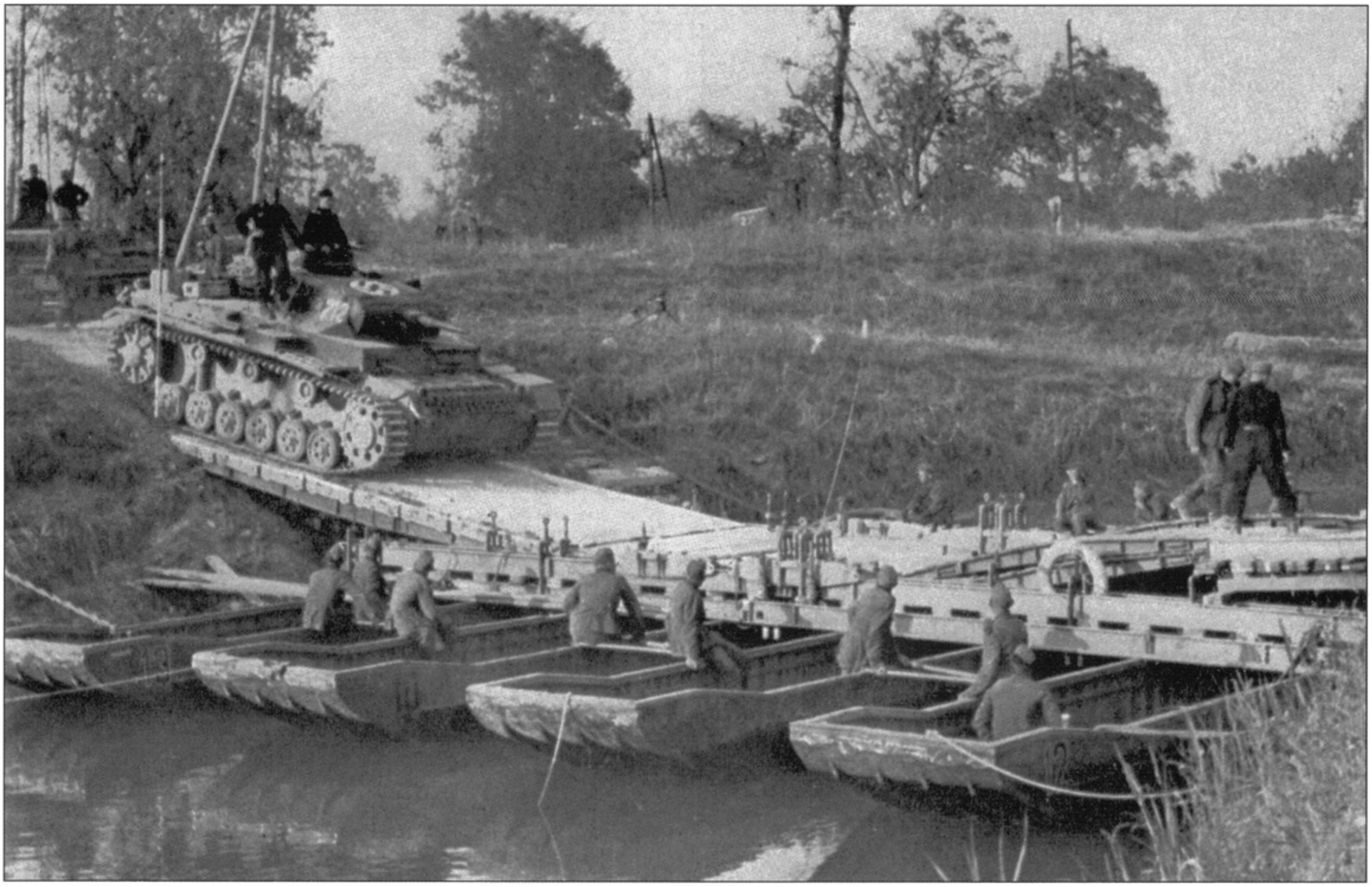
A Pz.Kpfw.III Ausf.F moves through a damaged French town in mid-June 1940. The tactical number, '641', painted in white on the back of the turret indicates it is the first tank in the fourth platoon of the sixth company in the division. A white outline national cross can be faintly seen on the rear plate as well.

A Pz.Kpfw.II Ausf.A-C crosses a temporary bridge over a canal in Holland, May 10, 1940. The bridge was built by German Pioneers using specialized bridging components that were transported by trucks. The smaller assault bridging sections carried on their Sd.Kfz.251/7 half-tracks would have been inadequate for a task such as this. The tactical number '411' is painted in white on a small black rhomboid plate fixed to the rear of the vehicle and a German national flag has been placed on the engine deck to identify it to German aircraft. These bridges allowed only one way traffic and a group of motorcycles and a truck can be seen on the opposite side awaiting their turn to cross.

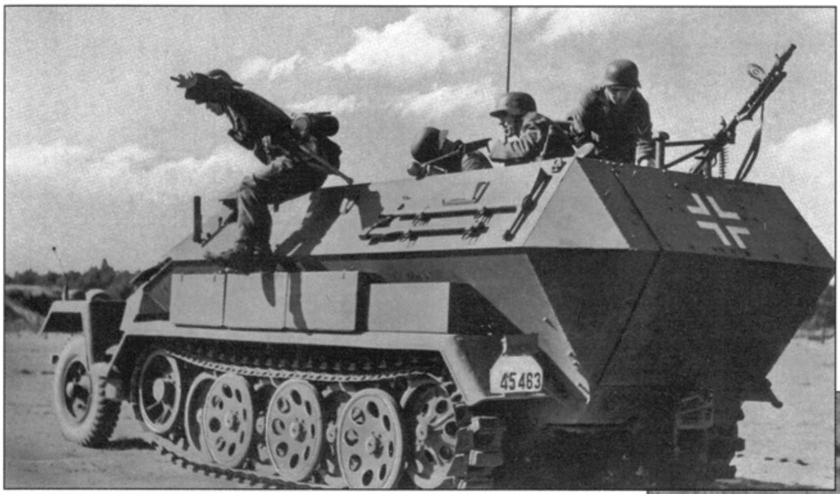




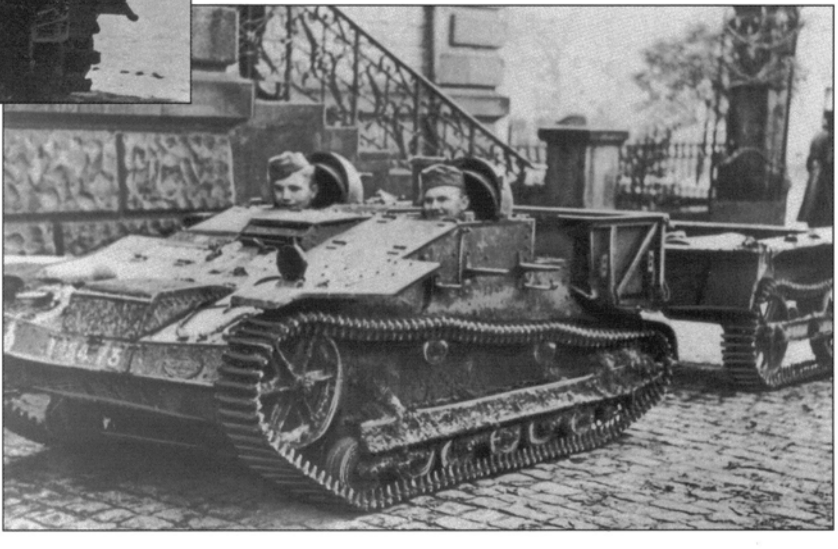
An obsolete Pz.Kpfw.I Ausf.A moving through a battered French town in June 1940. Originally designed as a training vehicle, a total of 818 were produced from July 1934 to June 1936 and in the formative years of the Panzertruppe, large numbers of them provided an impressive display of Germany's military might for visiting foreign dignitaries. Its combat effectiveness can be compared to the French FT-17 tank of WWI. Armed with two MG13 machine guns, it could only be employed against enemy infantry.



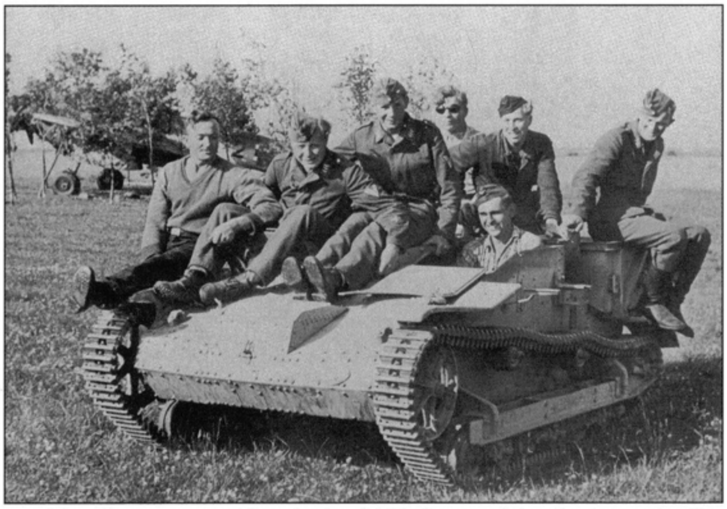
A Pz.Kpfw.III Ausf.E crossing a river on a temporary engineer's bridge in France, June 1940. The tactical number '212' is painted in white on the turret and it also carries a German flag for aerial identification. This practice was used for the first time in France and proved to be useful in helping identify German units to their own low-flying reconnaissance planes.



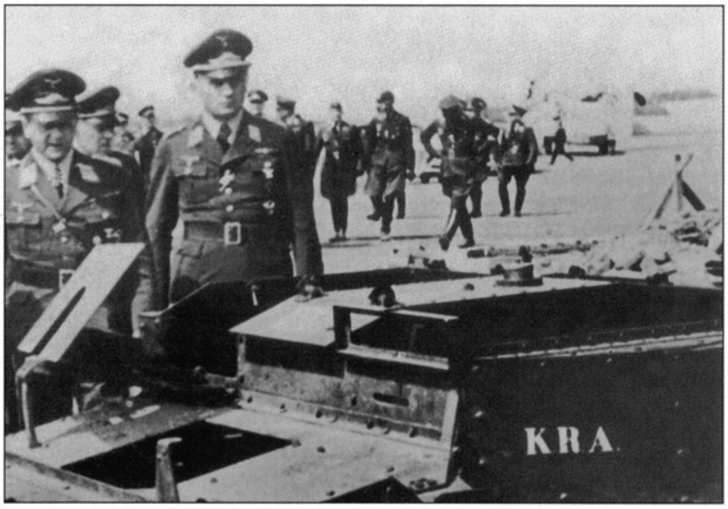
Panzergrenadiere dismount from an Sd.Kfz.251/1 Ausf.A during training in 1940 in this photo taken from a German postcard. This was a relatively rare vehicle in the Panzer-Divisions at this period of the war and only seven companies of 12-14 vehicles in all ten Panzer-Divisions were equipped with them. The censor has removed the 'WH' from the vehicle registration plate.



It is interesting to note that the French Army was more extensively motorized during the 1930s than the German Army was. Approximately 6,000 lightly armored and tracked tractors, like this UE with trailer, were employed by the French Army in 1940. This one has been captured by the Germans and put to use but still carries the original French markings on the front plate, the serial number, or matricule, and a small white grenade shaped bridging sign with a '1' inside.



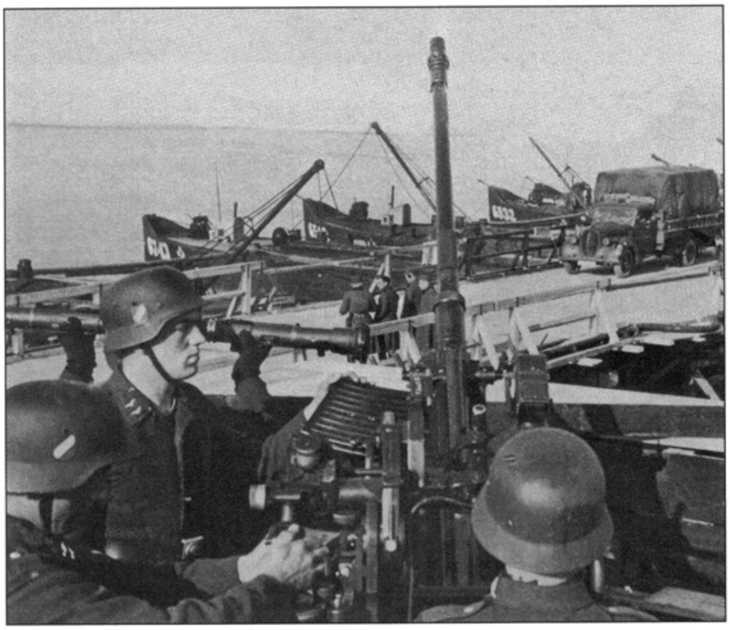
The Germans used hundreds of UEs in a variety of roles under the designation UE 630(f). Here, this one is assigned to the Luftwaffe for airfield security duties but at the moment is being used for the amusement of the unit personnel. In the background can be seen one of the unit's aircraft, camouflaged with cut foliage. Notice the colorful civilian shirt worn by the driver.



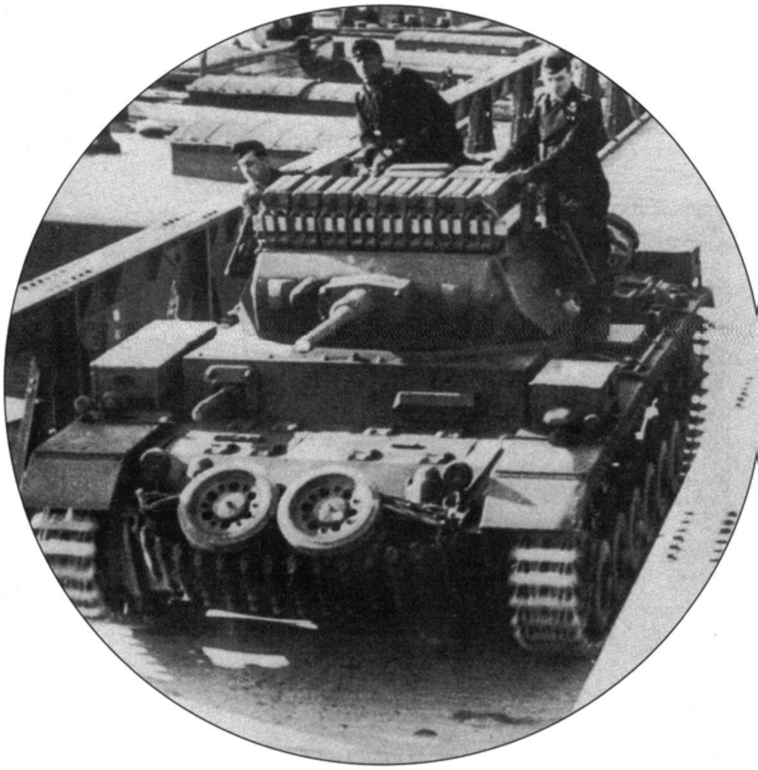
One of five British built Carden-Loyd Mk.VI carriers used by the Dutch Army being inspected by Luftwaffe Generaloberst Erhard Milch and Hermann Göring, who had been promoted to Reichsmarschall on June 19, 1940. The Dutch national insignia, an orange triangle edged in black, is carried on the front of the hull. The initials 'K.R.A.' painted on the side stand for 'Korps rijdende artillerie' or 'Corps of Horse Artillery'.

Feldwebel Huber, a member of a reconnaissance battalion, and winner of the Knights Cross in France and Iron Cross First Class in Poland, explains to a civilian and a minor Nazi Party official, how this Sd.Kfz.232 8-Rad was damaged in action. The vehicle was exhibited by the Wehrmacht in the fall of 1940 as an additional attraction for people attending the propaganda movie, 'Der Sieg im Westen'.

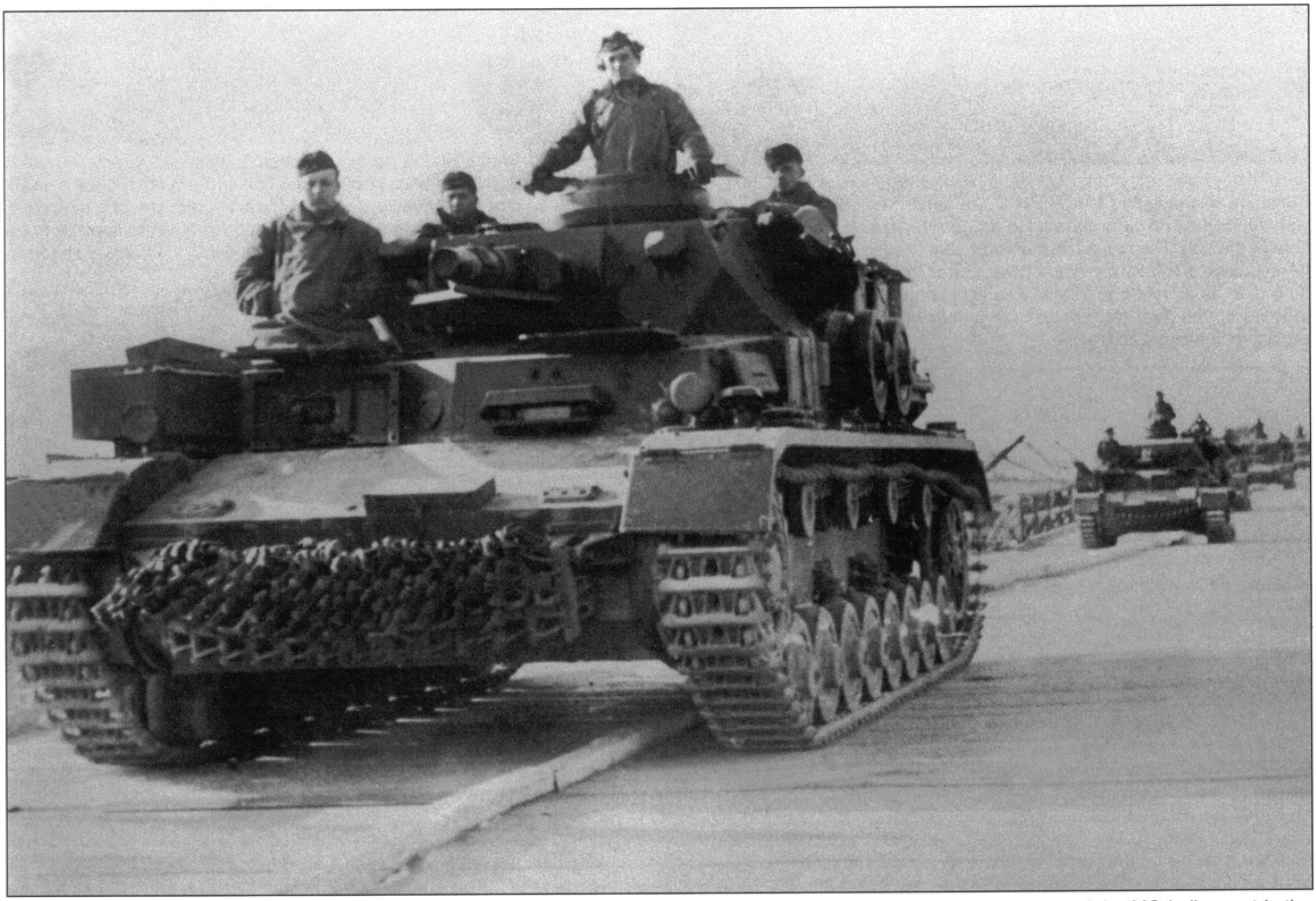
Captured French equipment on display on the Unten der Linden in Berlin in the middle of October, 1940. Large numbers of Panhard 178 armored cars were captured and placed into German service as the Panzerspähwagen Panhard 178-P204(f). Most were issued to armored reconnaissance units.



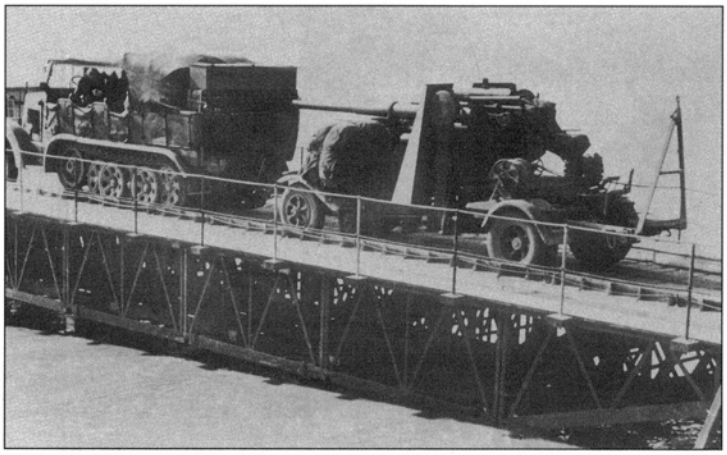
A Luftwaffe 2cm FlaK30 anti-aircraft gun guarding one of the two bridges over the Danube River built by the German Army in February 1941 to create a quick route through Bulgaria for von List's 12.Armee to attack Greece in April. The first German vehicles entered Bulgaria undisturbed on March 2, 1941. The trucks in the background are Ford G917T 3-ton type and display tactical markings on the mudguards.



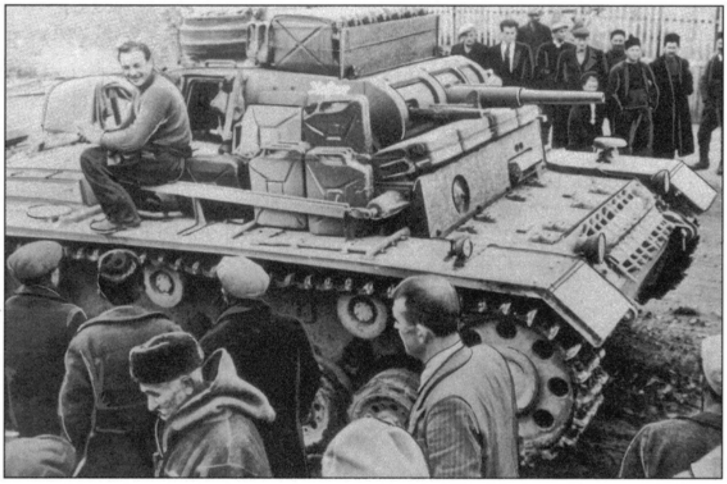
A Pz.Kpfw.III Ausf.G carrying several extra fuel cans on the turret roof, crosses another bridge into Bulgaria. Due to the long distances involved, armored vehicles often carried additional fuel with them so they would not have to wait for the transport trucks to catch up.



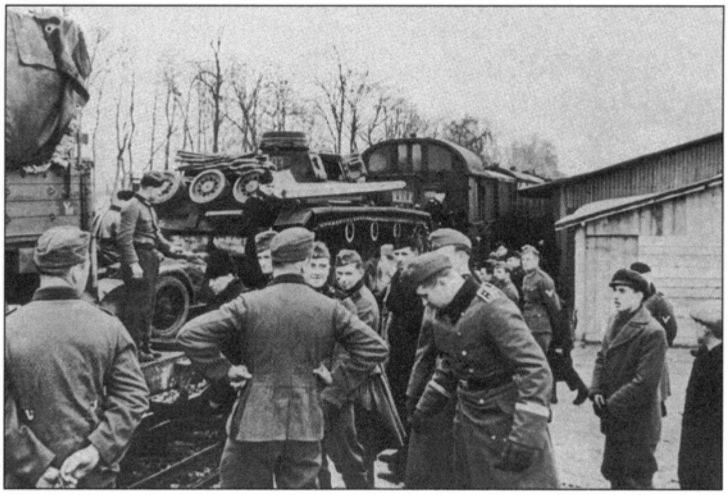
A column of Pz.Kpfw.IV Ausf.E from Pz.Rgt.33 of 9.Panzer-Division enter Bulgaria over the Danube bridge. Visible around the MG ball mount is the bracket for attaching the 30mm additional armor plate that was fitted to many of these vehicles. This crew have also suspended several rows of extra track links from the front tow hooks.



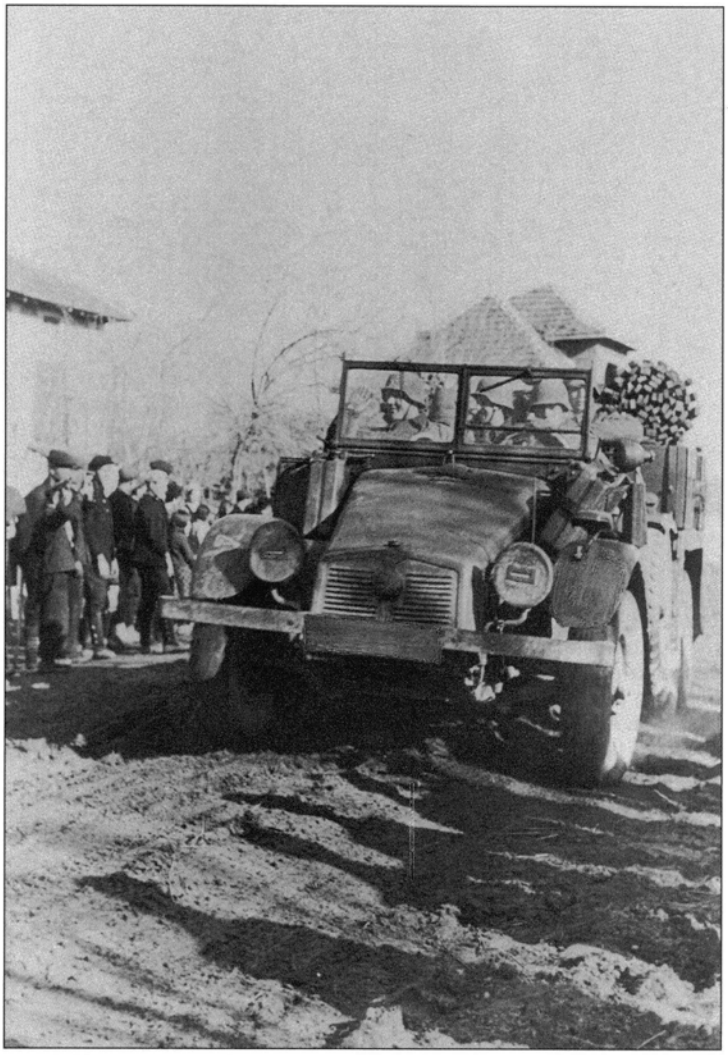
Another early model Luftwaffe Sd.Kfz.7 towing an 8.8cm FlaK18 across a temporary bridge. This one appears to be one of those built by Hansa-Lloyd as the HL m 10 as it has a different front mudguard. The license number plate appears on the rear of the vehicle as well as on each side just below the storage compartment doors.



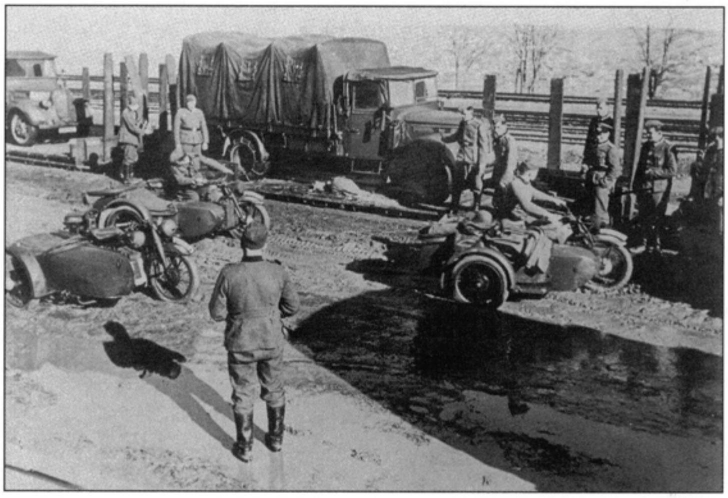
This retouched photo shows a Pz.Bef.Wg.III Ausf.H at rest in a Bulgarian village in mid-March 1941. The vehicle has been heavily stowed with additional fuel cans secured to the turret roof and along the front and side of the hull. The name 'Haster', probably painted in red or black with a white outline, has been painted on the side of the turret while the inscription 'fu 6 u. 8', likely referring to the radio equipment carried, has been painted in white on the front plate beside the former MG ball mount location, now replaced by a pistol port.



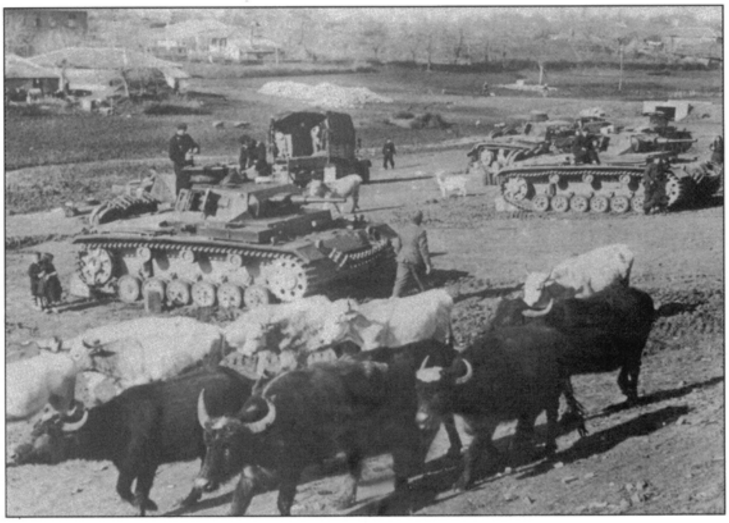
Vehicles from 9.Panzer-Division being loaded on trains in Bulgaria to move them faster to the southern border of that country. The divisional emblem is visible on the rear of the truck on the left and on the rear plate of the Pz.Kpfw.III Ausf.E or F behind it. In the foreground, an Oberfeldwebel who is acting as the Hauptfeldwebel, or Company Sergeant Major, can be seen wearing the two cuff braids of his appointment on his early pattern greatcoat.



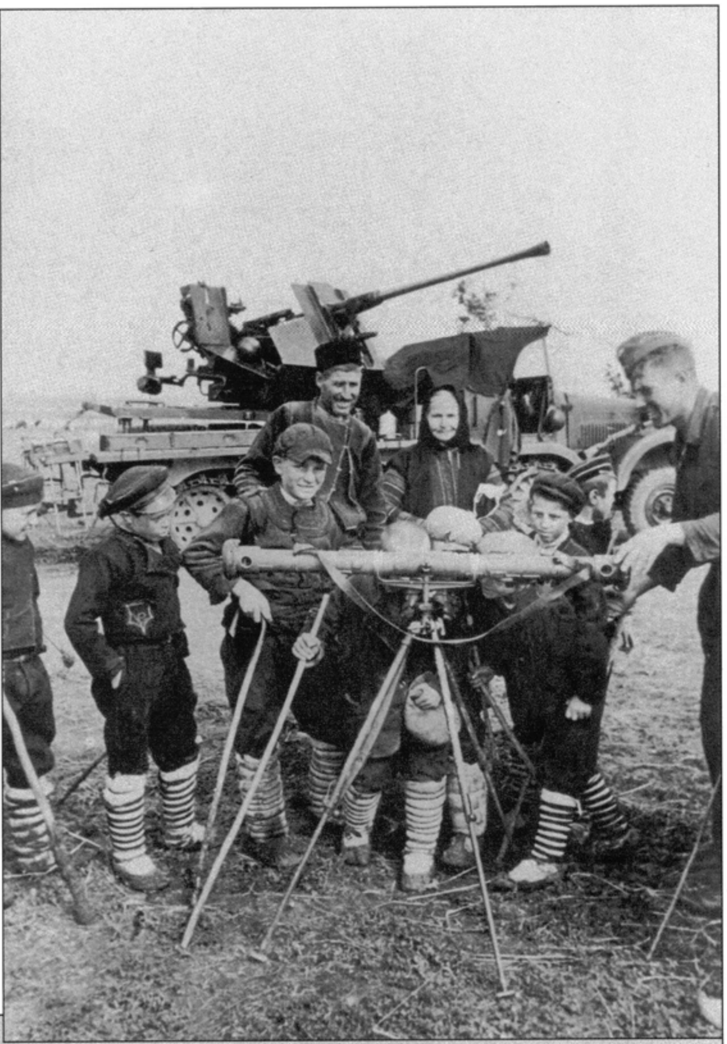
A Krupp Protze Kfz.69 passing through a Bulgarian village in March 1941. The vehicle registration number and unit emblem have been painted out by the censor but the tactical sign for the first company of a motorized anti-tank battalion is still visible on the right mudguard. What appears to be a camouflage pattern painted on the front of the vehicle is actually shadows cast from trees lining the roadside.



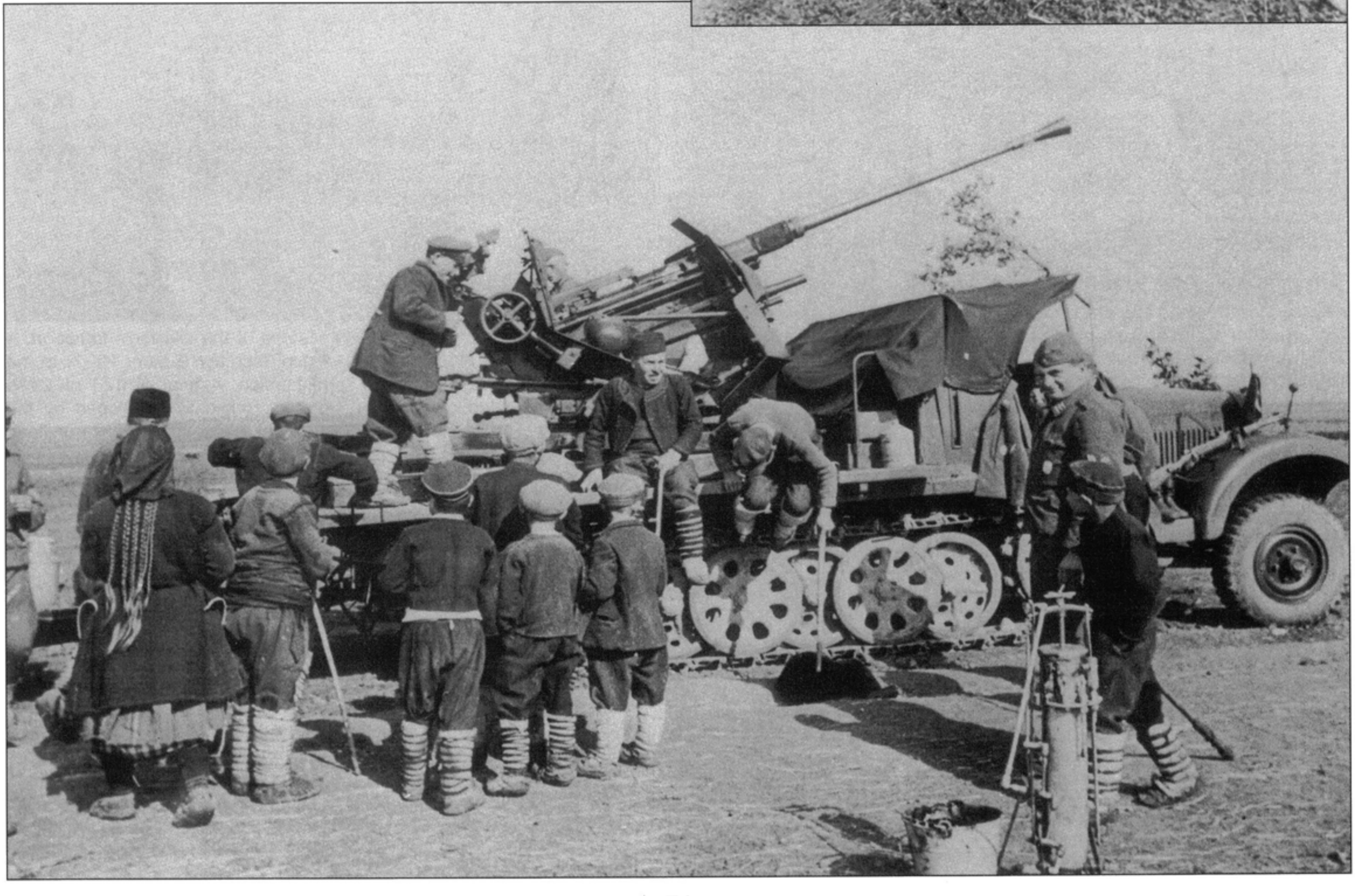
Another shot of vehicles being loaded onto trains. The two motorcycle combinations in the background are Zündapp KS600's. The one in front is a BMW R61 that has been fitted with an unusual sidecar. The two trucks are Ford G 917 T or G 997 T 3-ton lorries. The two types were identical externally, the only difference being the engine.

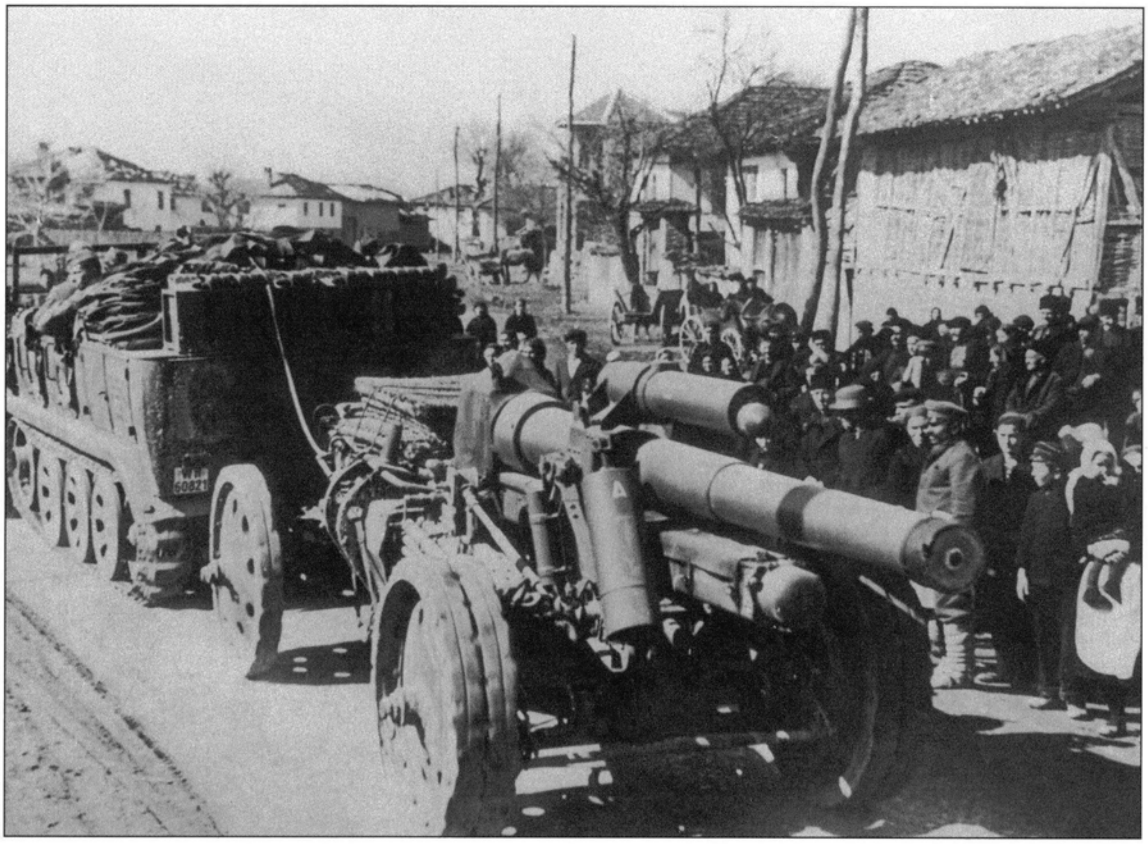


A platoon of Pz.Kpfw.III Ausf.G bivouacked near a village in southern Bulgaria at the end of March 1941. Judging from the similar spare roadwheel stowage arrangement on the rear plate, they are probably from 9.Panzer-Division as well. The tactical number '542' can be seen painted in white on the turret of the nearest vehicle while the one behind is '541'.

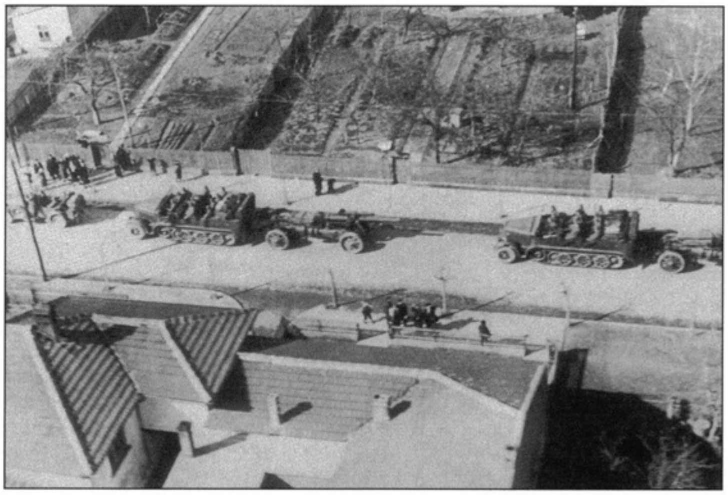


Two photos of an Sd.Kfz.6/2 anti-aircraft vehicle armed with a 3.7cm FlaK36 gun which is assigned to a Luftwaffe anti-aircraft unit. The Bulgarian peasants seem to be very interested in it, especially the children who are being shown the view of the countryside through the range finder. The 3.7cm FlaK36/37 became the standard defense weapon against low-flying aircraft and were fitted to a variety of self-propelled mounts including the Sd.Kfz.7 and sWS. A total of 339 of the Sd.Kfz.6/2 were built up to 1943.

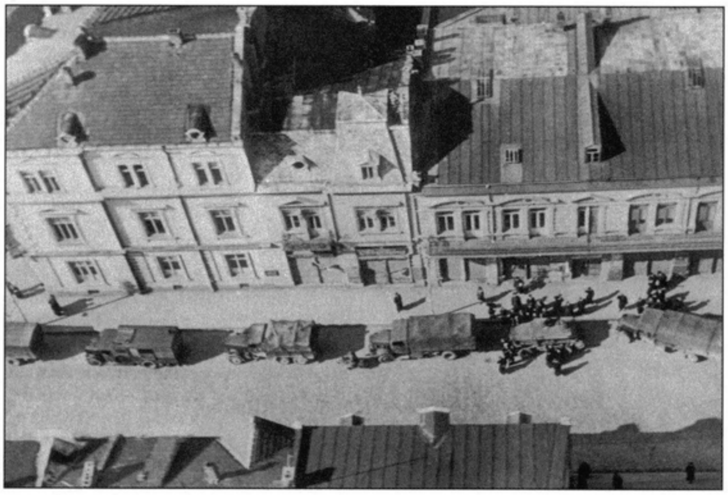




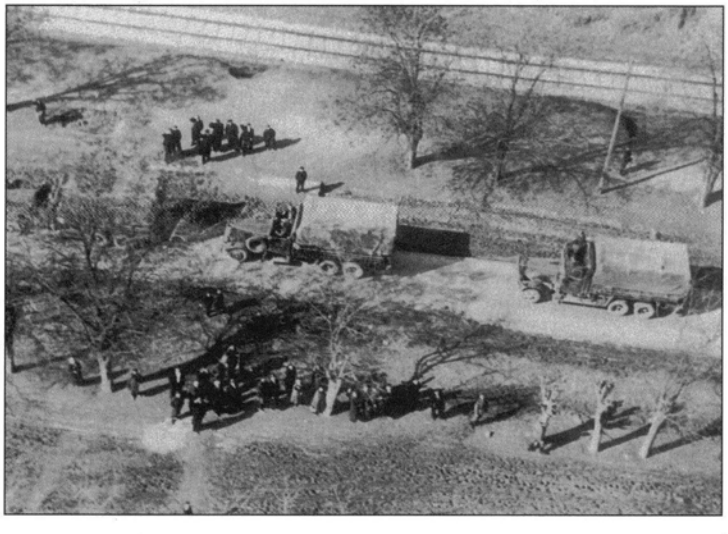
An Sd.Kfz.7 half-track prime mover towing a 15cm sFH18 howitzer in Bulgaria in March 1941. The letter 'A', indicating the battery the gun was assigned to, is painted in white on the right equilibrator and just below that, is the tactical sign for a towed artillery battalion and the emblem of 9.Panzer-Division.



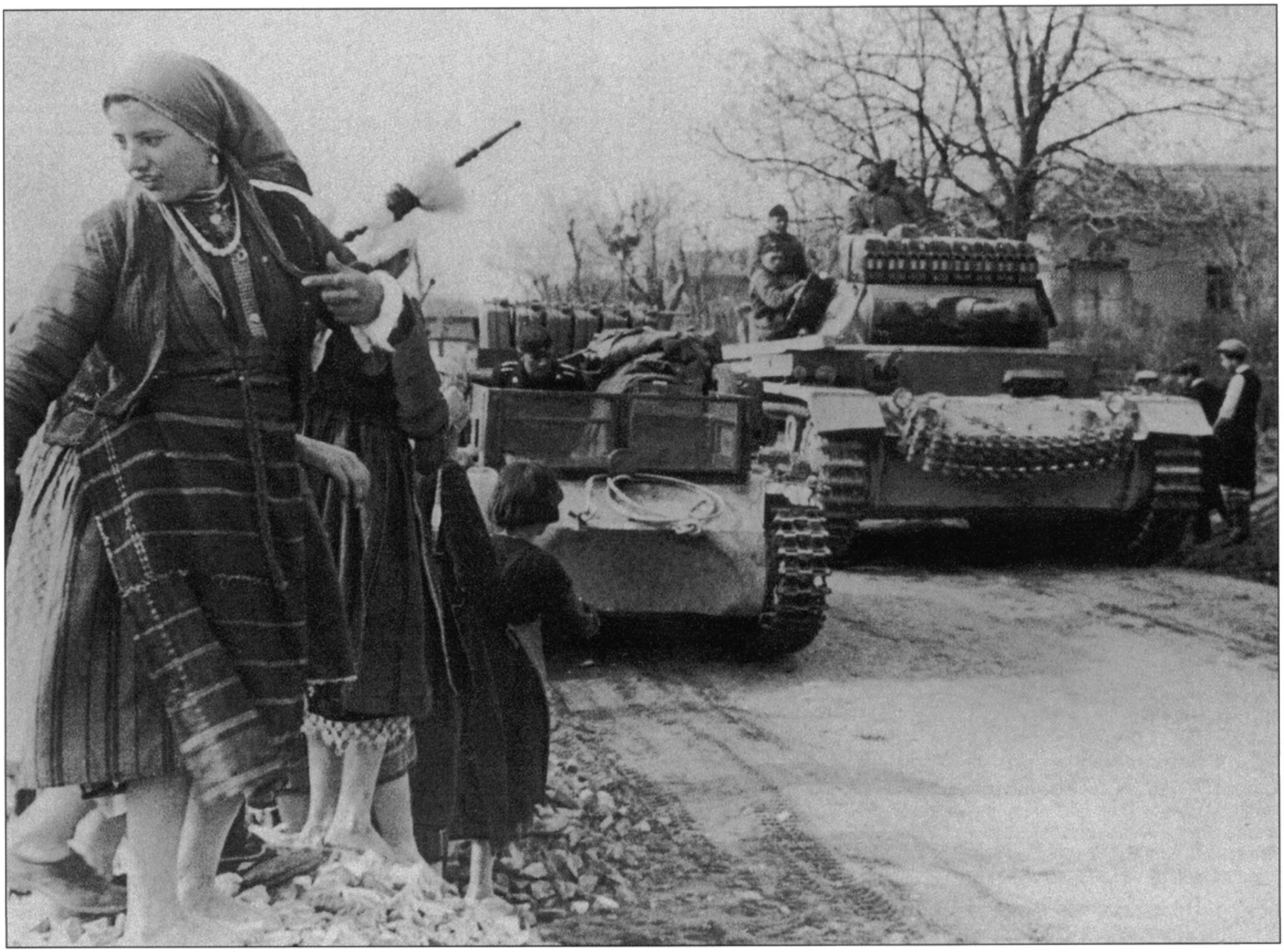
Another photo of what may be the same column, taken from the air. The two Sd.Kfz.7s are being led by a light staff car, of which there were normally 3-4 in each battery.



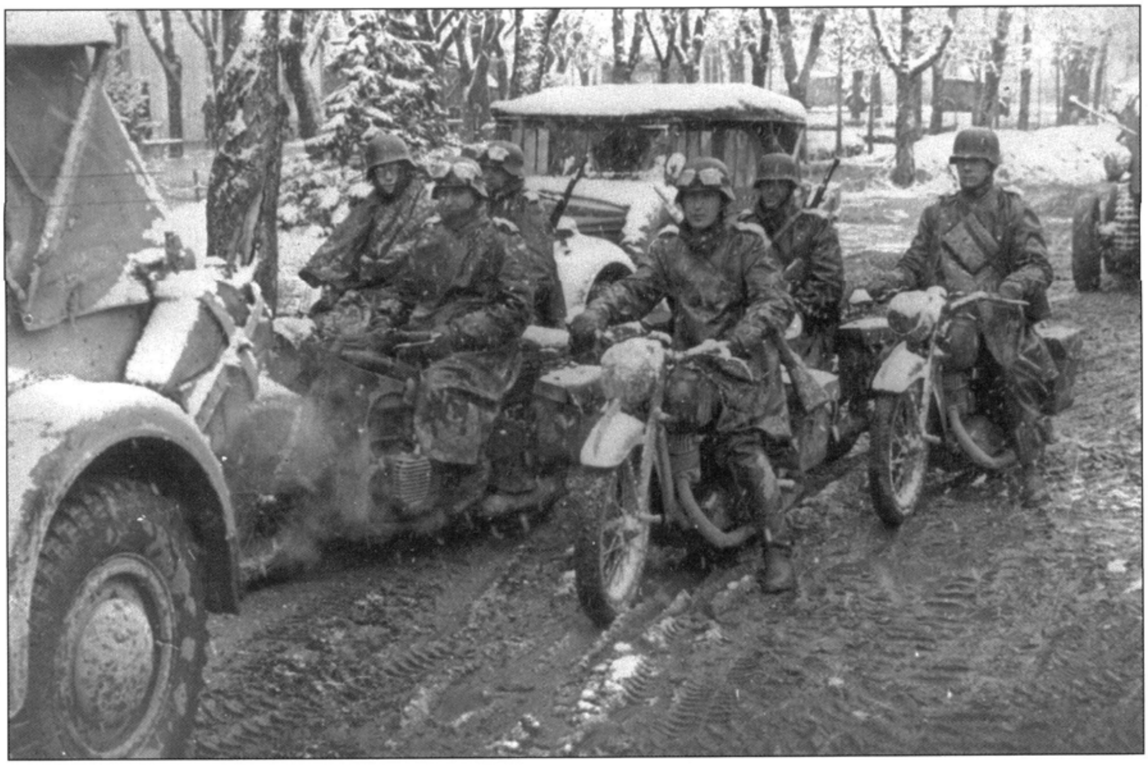
Part of the same column showing some of the division's transport. A rarely seen vehicle, the Sd.Kfz.254 m.gep.Beob.Kw (Saurer RK-7) to the right seems to have attracted much attention. A total of 128 of these combination wheeled and tracked vehicles, originally developed by the Austrian Army, were incorporated into the Wehrmacht Panzerartillerie Regiments as observation and radio vehicles.



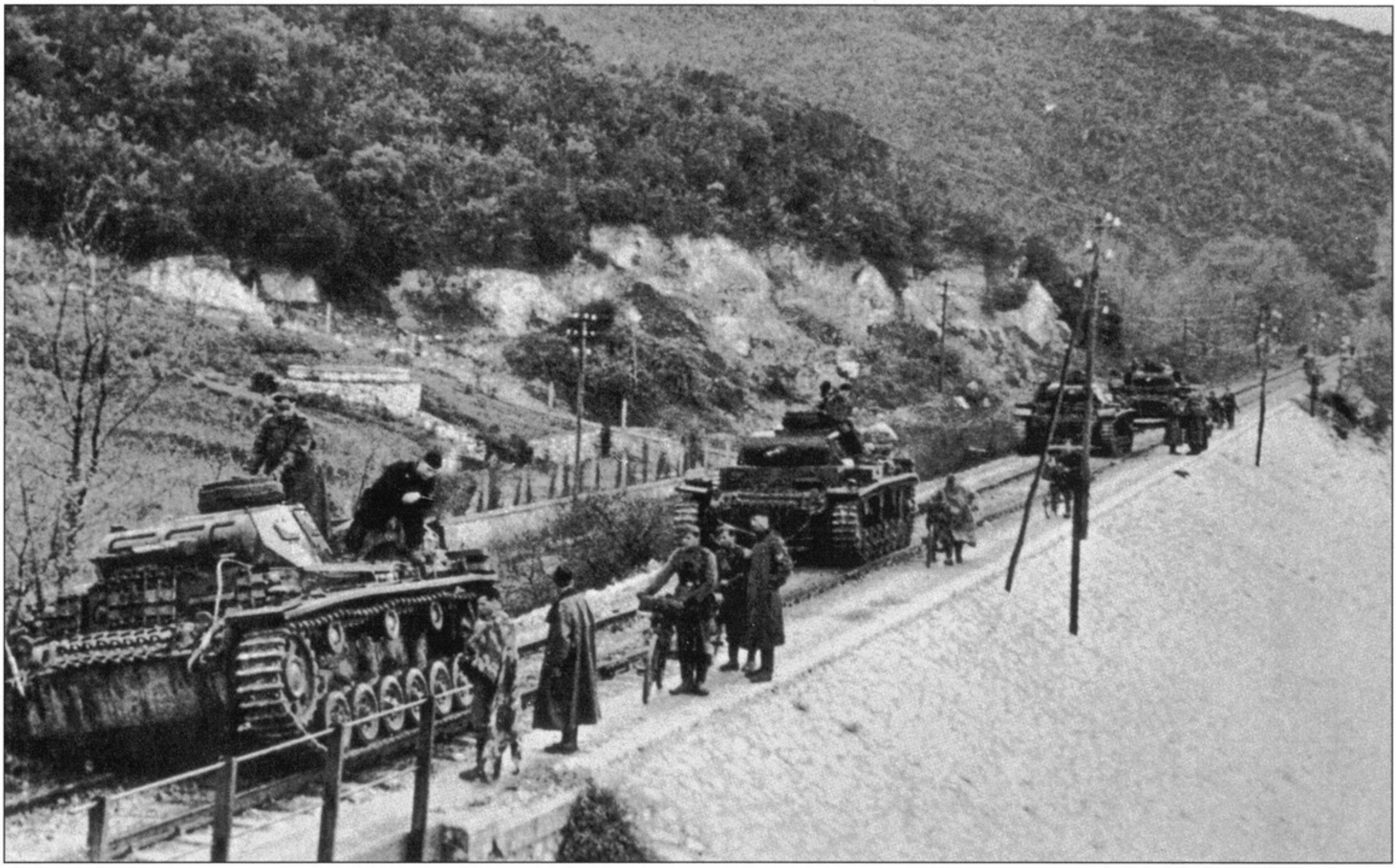
Three more transport trucks seen from the air, leaving the Bulgarian town heading south. The battery organization provided for eight 3-ton trucks for ammunition transport. No reserves were provided for so in critical situations, additional transport could only be provided by the divisional supply company.



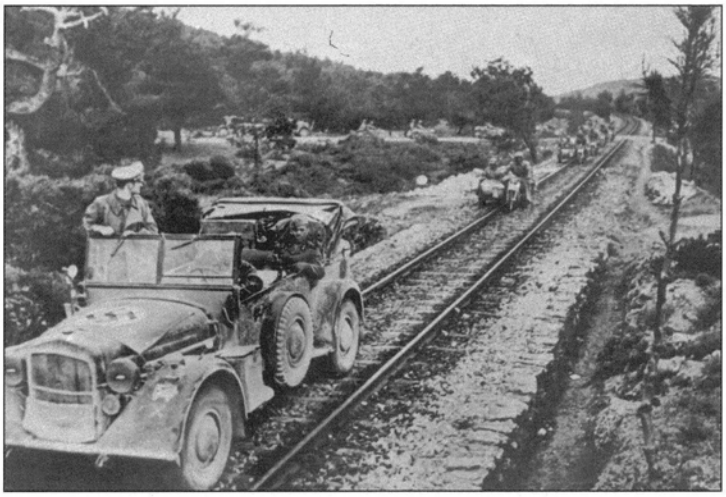
A Pz.Kpfw.III Ausf.G passing by another rare vehicle, an Instandsetzungskraftwagen I, an open, turretless Pz.Kpfw.I Ausf.B used as a repair and recovery vehicle. Unusually, this one features a glass windscreen. 164 of them were produced up to November 1938. They were used up to 1941 when they were found to be too small and after that served as training vehicles. The emblem of 9.Panzer-Division is just visible to the right of the driver's visor on the Pz.Kpfw.III. This photo was taken in Bulgaria in late March 1941.



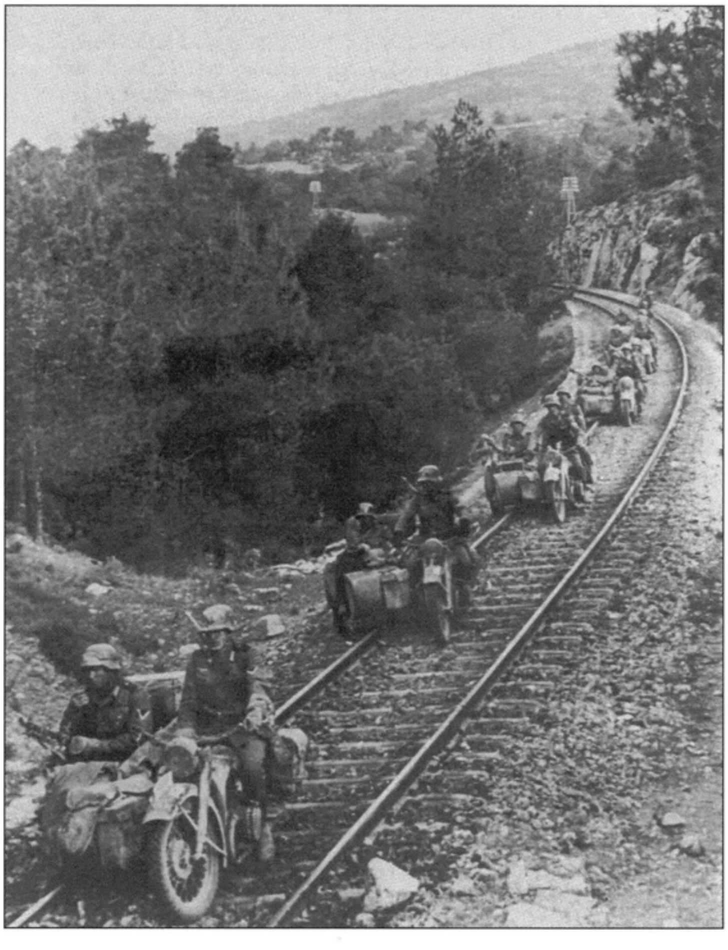
German motorcycle troops and light personnel cars make their way along a muddy, forest road in Bulgaria. The two motorcycles in front are NSU 601 OSL solo machines while the one behind is a BMW R12 combination. Of special interest though, is the Sd.Kfz.254 m.gep.Beob.Kw (Saurer RK-7) running on its wheels in the background.



Traveling on railroads is not the most sensible thing to do for any type of vehicle, including tanks, because of the risk of damage to the tracks and suspension. Nevertheless, there are occasions when no other choice was available as with this column of Pz.Kpfw.IIIs near Larissa, Greece, in April 1941. On the left, a Pz.Bef.Wg.III Ausf.H seems to have climbed up onto the rail and is being carefully guided off with the assistance of the soldiers on the ground. It is followed by three Pz.Kpfw.III Ausf.G which appear to have been uparmored with the additional 30mm plates welded and bolted to the front.

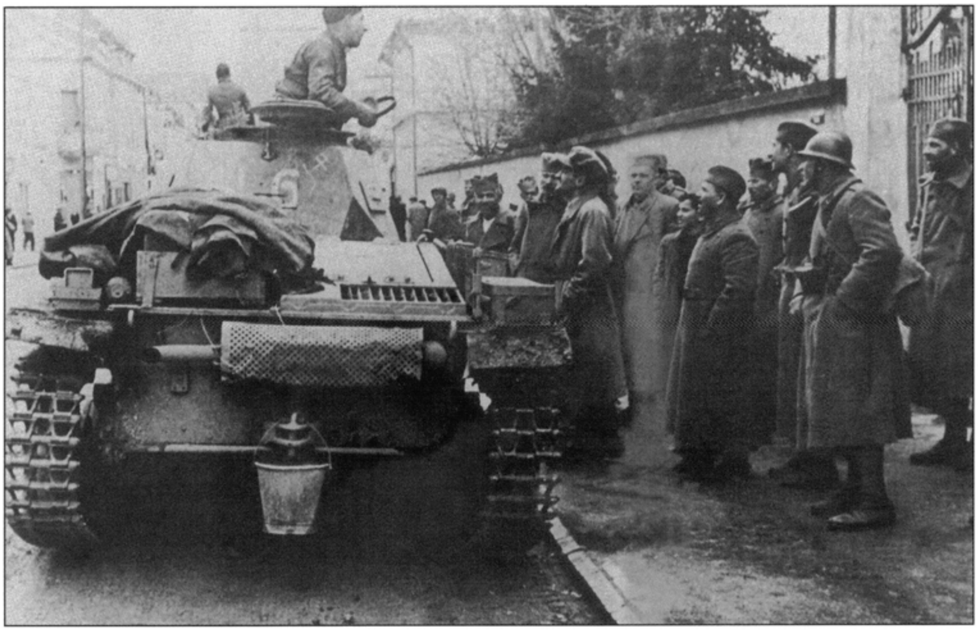


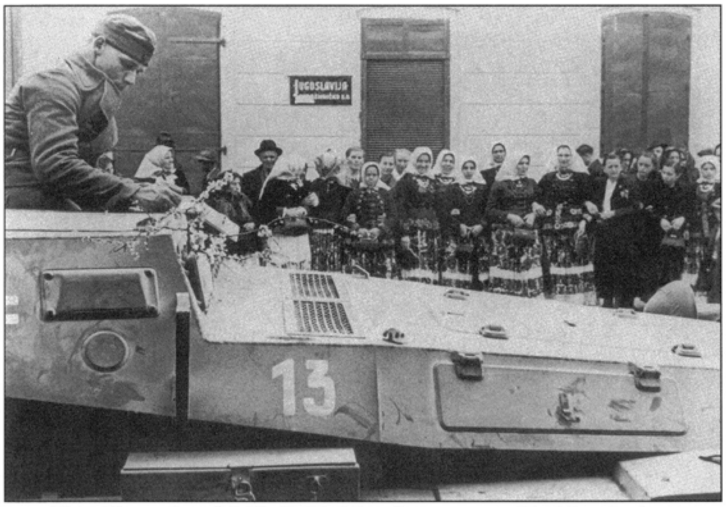
A Horch Kfz.15 leads a column of motorcycle combinations along a railroad in Greece, April 1941. The emblem of 5.Panzer-Division, an 'X', has been painted in yellow on the left mudguard and the tactical sign of a motorized reconnaissance company is painted in white above it. A German national flag has been tied across the engine compartment for aerial recognition.

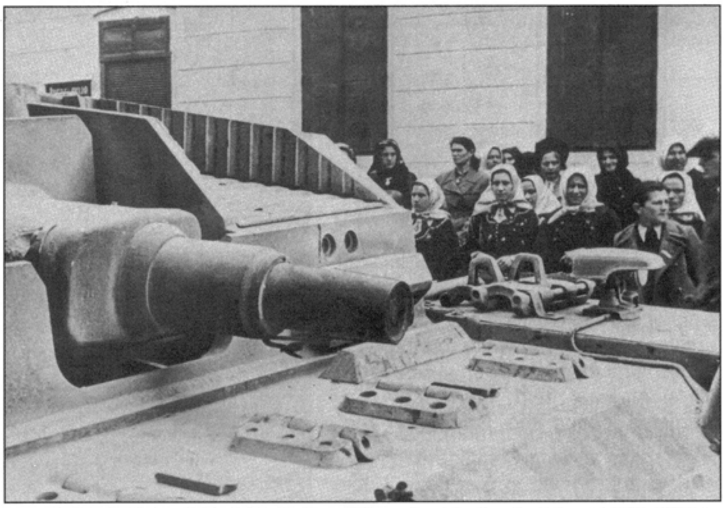


The same column moves slowly along the railroad. The first three machines are BMW R12s and the one on the left displays the 5.Panzer-Division emblem and the tactical sign for a motorized reconnaissance company on its mudguard.

The commander of a Pz.Kpfw.II Ausf.A-C converses with Yugoslavian Army POWs in Croatia, April 1941. The emblem of 14.Panzer-Division is painted in yellow on the back of the turret along with an unusual tactical marking '1LG' painted in white.

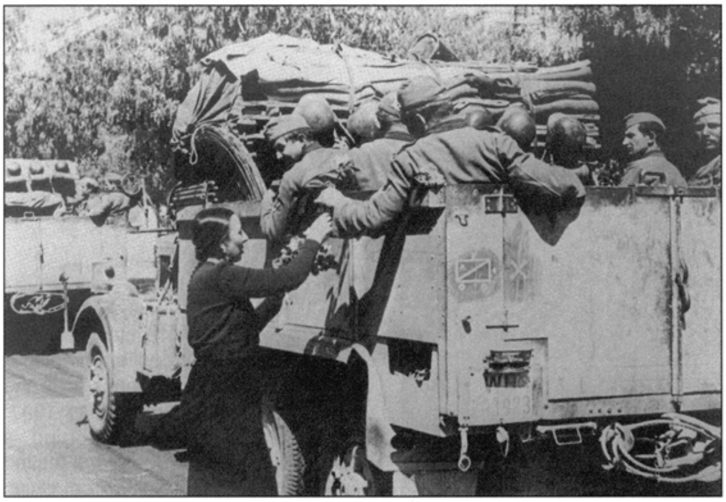


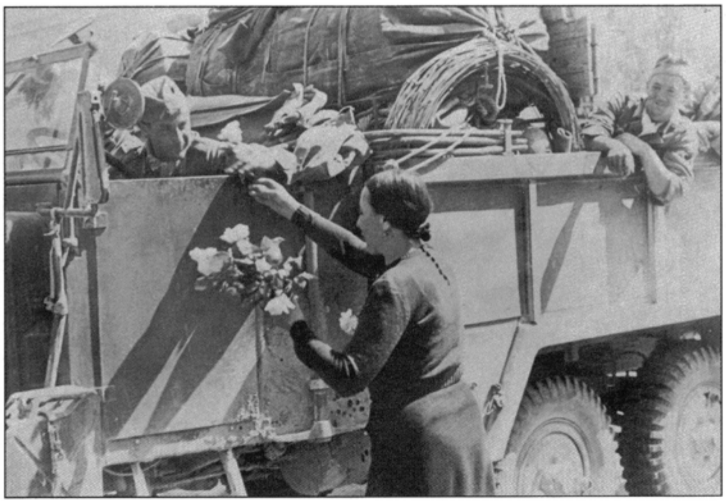




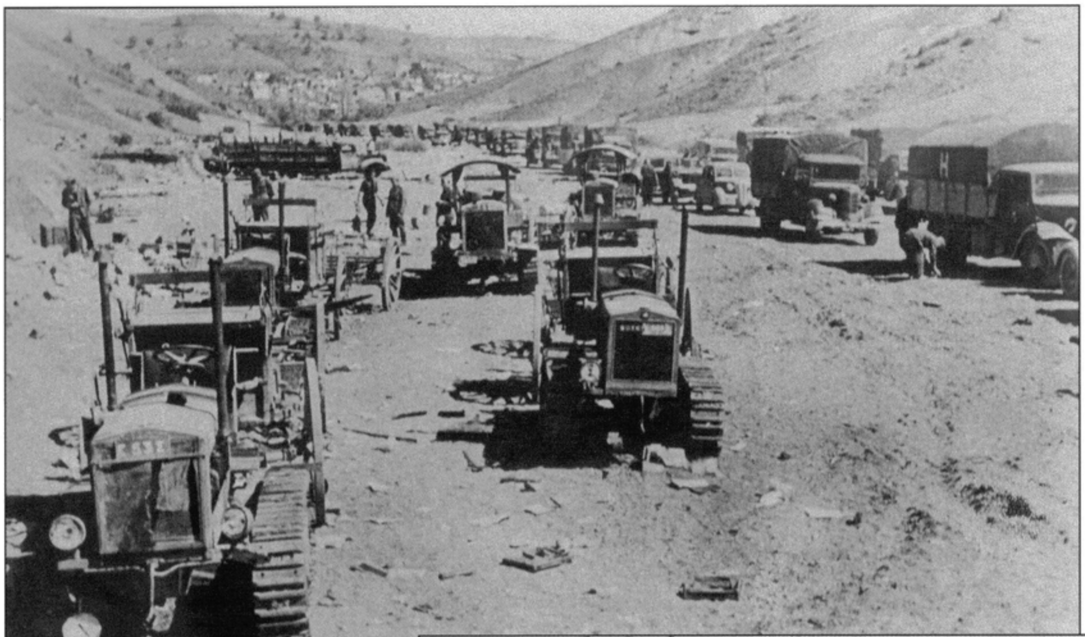
The driver of an Sd.Kfz.252 leichte Gepanzerter Munitionskraftwagen, light armored ammunition carrier, probably from StuG.Abt.184, writes a report or letter after the battle in Yugoslavia in April 1941. The Sturmgeschütz-Abteilungen first saw action in France in 1940, but the real battles were yet to come. This vehicle is finished in overall dark gray and is covered with a layer of dust. Part of the white outline national cross is visible just to the left of the vision flap.

A StuG.III Ausf.B of StuG.Abt.184 parked in front of the Sd.Kfz.252 in the left photo. Clearly shown are some details not usually noticeable such as the hinge and lock detail on the inspection hatches and the bullet splash ridges lining the gun sight aperture. The white or yellow tactical sign for a self-propelled artillery unit is visible to the right. Three Heeres StuG.Abt. took part in the fighting in the Balkans in 1941. The other two, StuG.Abt.190 and 191 fought in Greece.



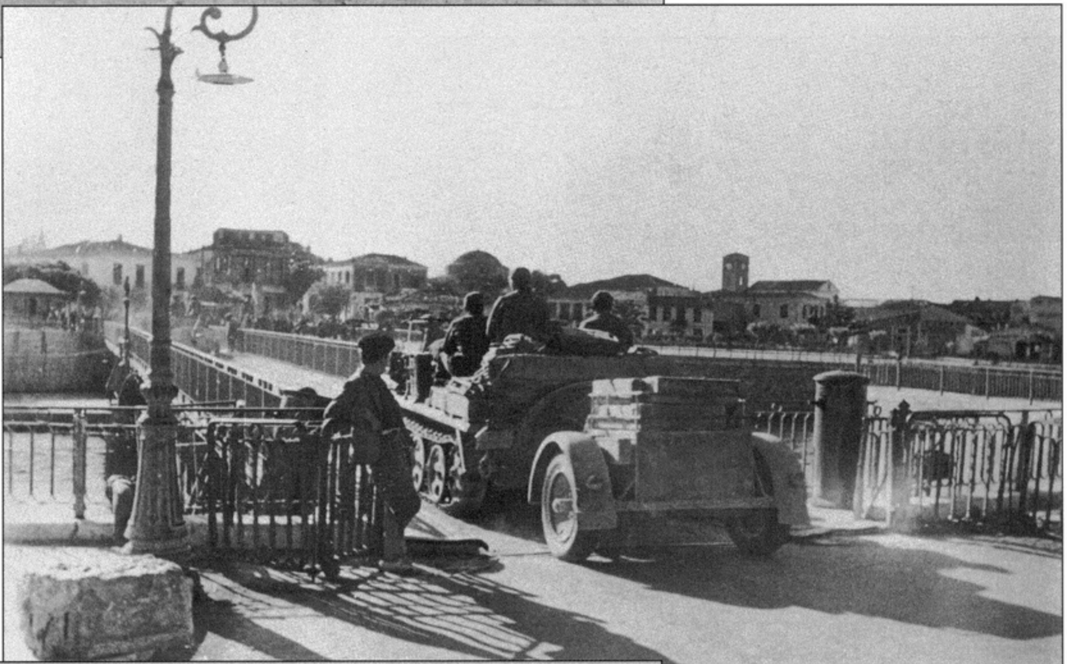


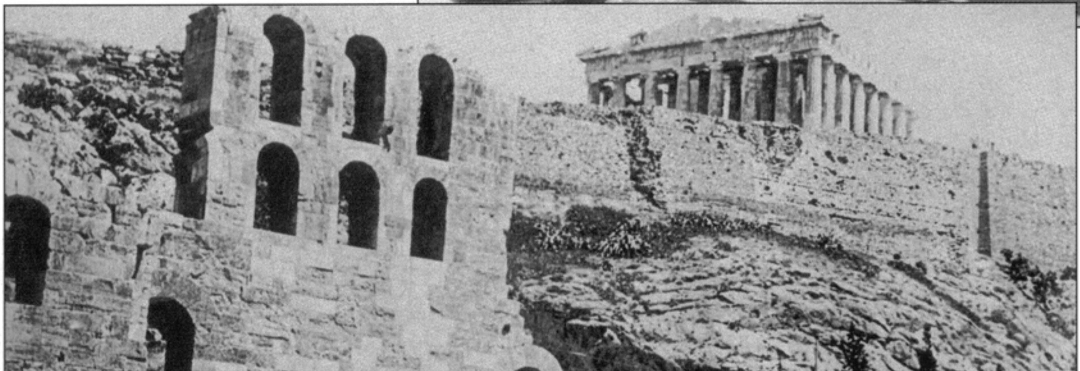
German soldiers were greeted with enthusiasm in many countries of Europe during the early stages of WWII, especially in Poland and the Balkans, where large numbers of ethnic Germans lived. Here, however, we see a Greek woman giving flowers to men of 5.Panzer-Division. The emblem of the Division can be seen painted in yellow on the rear door along with a white tactical sign for the fourth company of a motorized reconnaissance company. The truck, a MAN 3-ton lorry, is covered with a heavy layer of dust that has obscured the vehicle registration plate but has been rubbed off to reveal the tactical signs.



The remnants of a defeated Greek Army are bypassed by long supply columns of the fast moving German Divisions in early May 1941. Each Panzer-Division had its own supply units, but during more difficult operations their capabilities were limited due to traffic control, damaged roads and breakdowns. Also, the roads in many countries such as Poland, the Balkans and the Soviet Union, were too few and primitive to enable extensive use by hundreds of trucks.

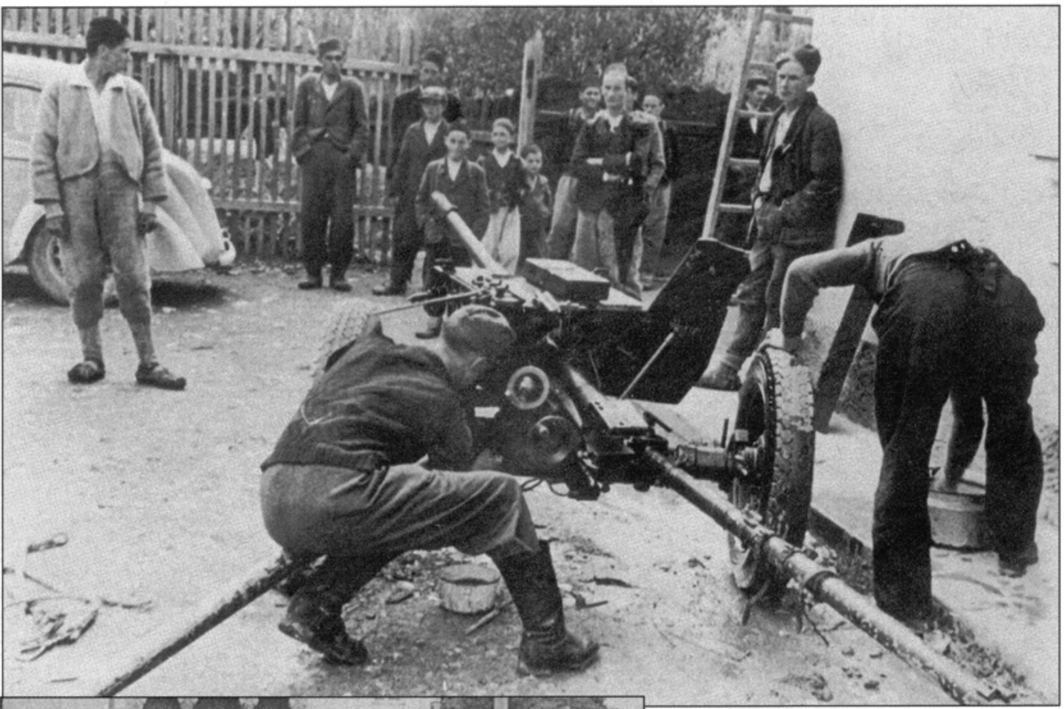
An Sd.Kfz.10 towing an ammunition trailer across a bridge. The emblem of 16.Panzer-Division is painted in yellow, along with the tactical sign for the second company of a towed anti-tank battalion in white, on the rear of the ammunition trailer. 16.Panzer-Division was held in reserve in Rumania during the fighting in the Balkans.

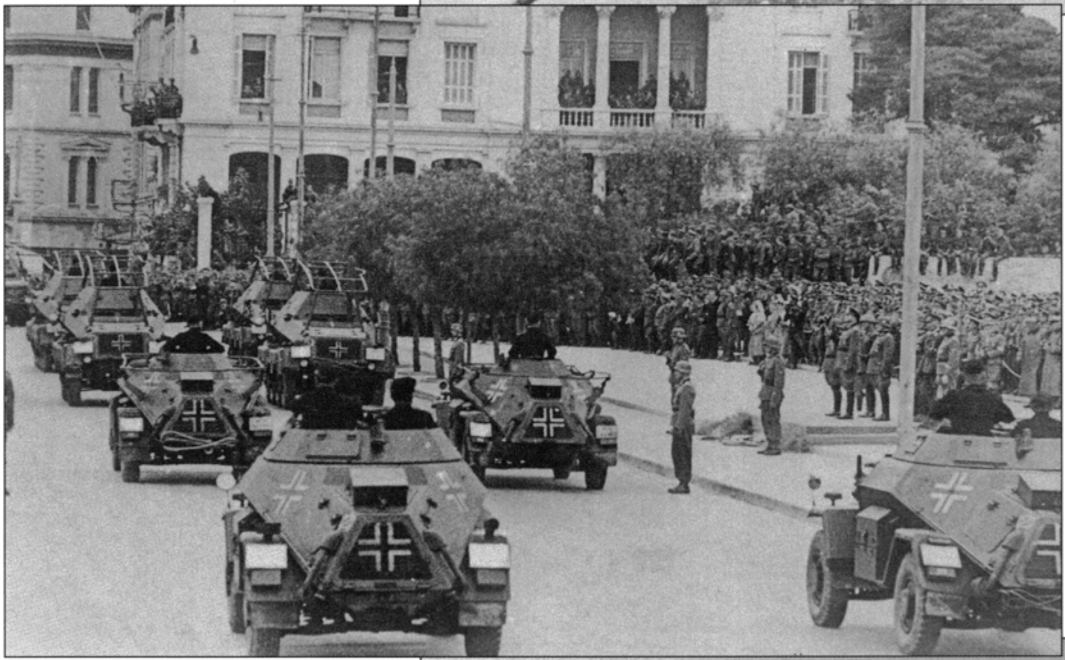




An 8.8cm FlaK18 stands before the ruins of the Acropolis, dominated by the Parthenon, in Athens after the Greek surrender in early May 1941. An elaborate frame supporting a camouflage net has been installed over the gun, the shadows from which create the impression of painted spots on the barrel. The gun is finished with overall dark gray which is lightened with a coating of dust.

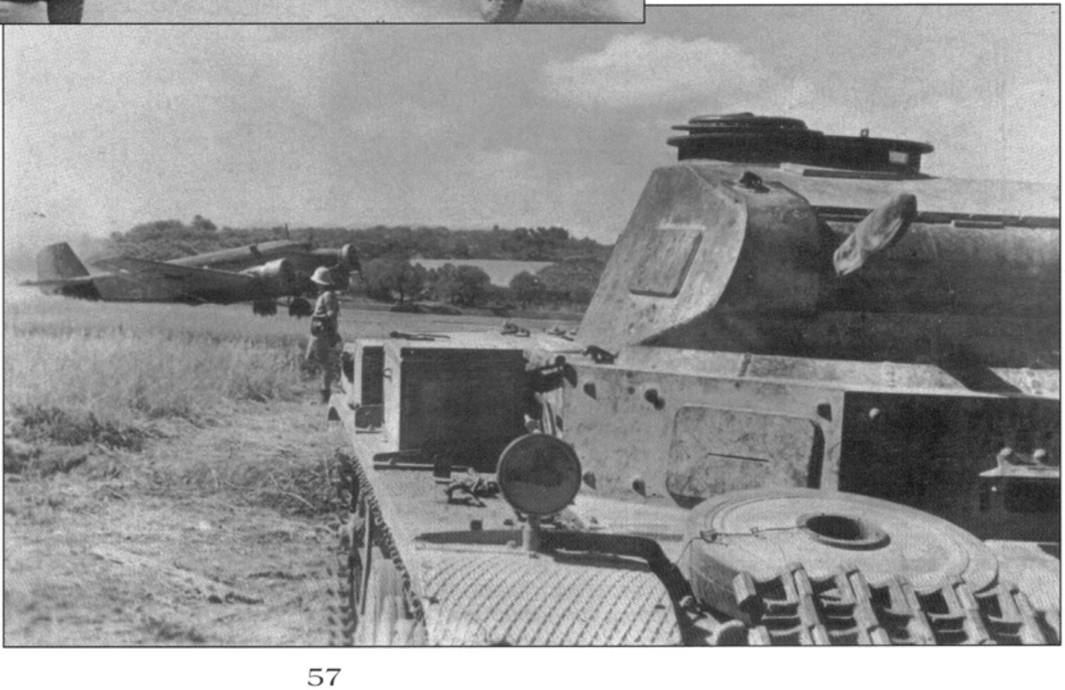
Curious onlookers watch as the crew of this 3.7cm PaK35/36 anti-tank gun wash off the accumulated dust and dirt from the short campaign. This photo illustrates how the hinged gun shield could be folded down.

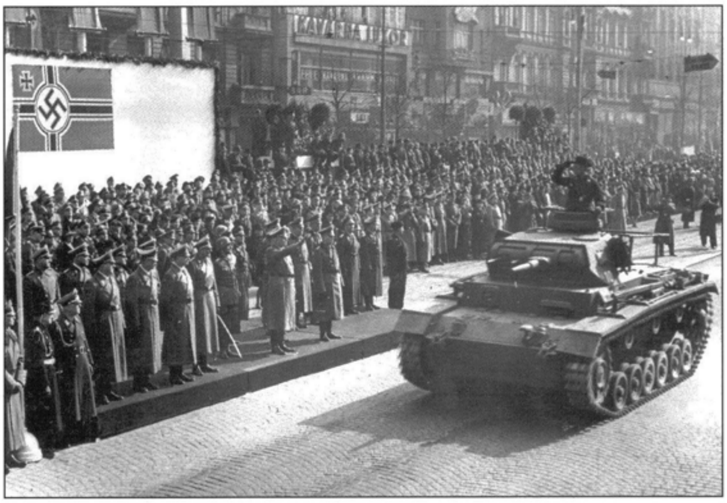




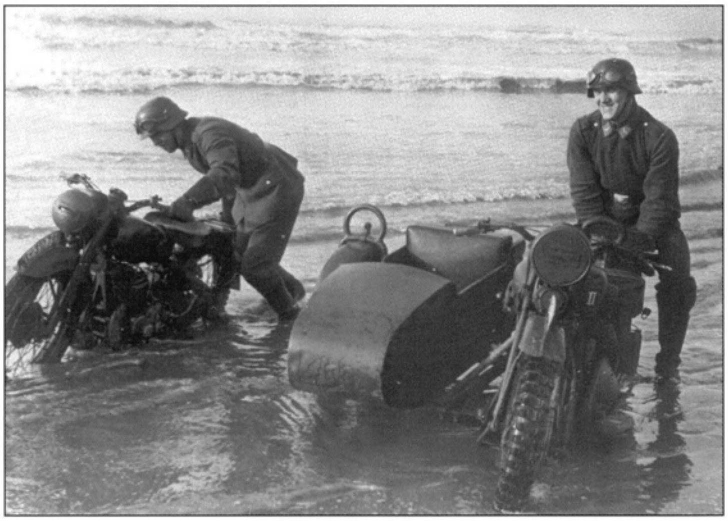
A victory parade in Athens on May 8, 1941. Gen.F.M. Wilhelm List and other high ranking officers take the salute as a column of armored cars pass in review. In the lead is an Sd.Kfz.231 followed by four Sd.Kfz.263, two Sd.Kfz.221 with two Sd.Kfz.222 in the rear. The tactical sign for a motorized reconnaissance company, painted in white, can be seen on the left rear of each of the last two vehicles.

Tanks were sent to Crete in May, 1941, to bolster the German invasion forces there. One of them, a Pz.Kpfw.II Ausf.A-C, is seen here guarding an airfield while a Junkers Ju-52 starts its motors in the background.

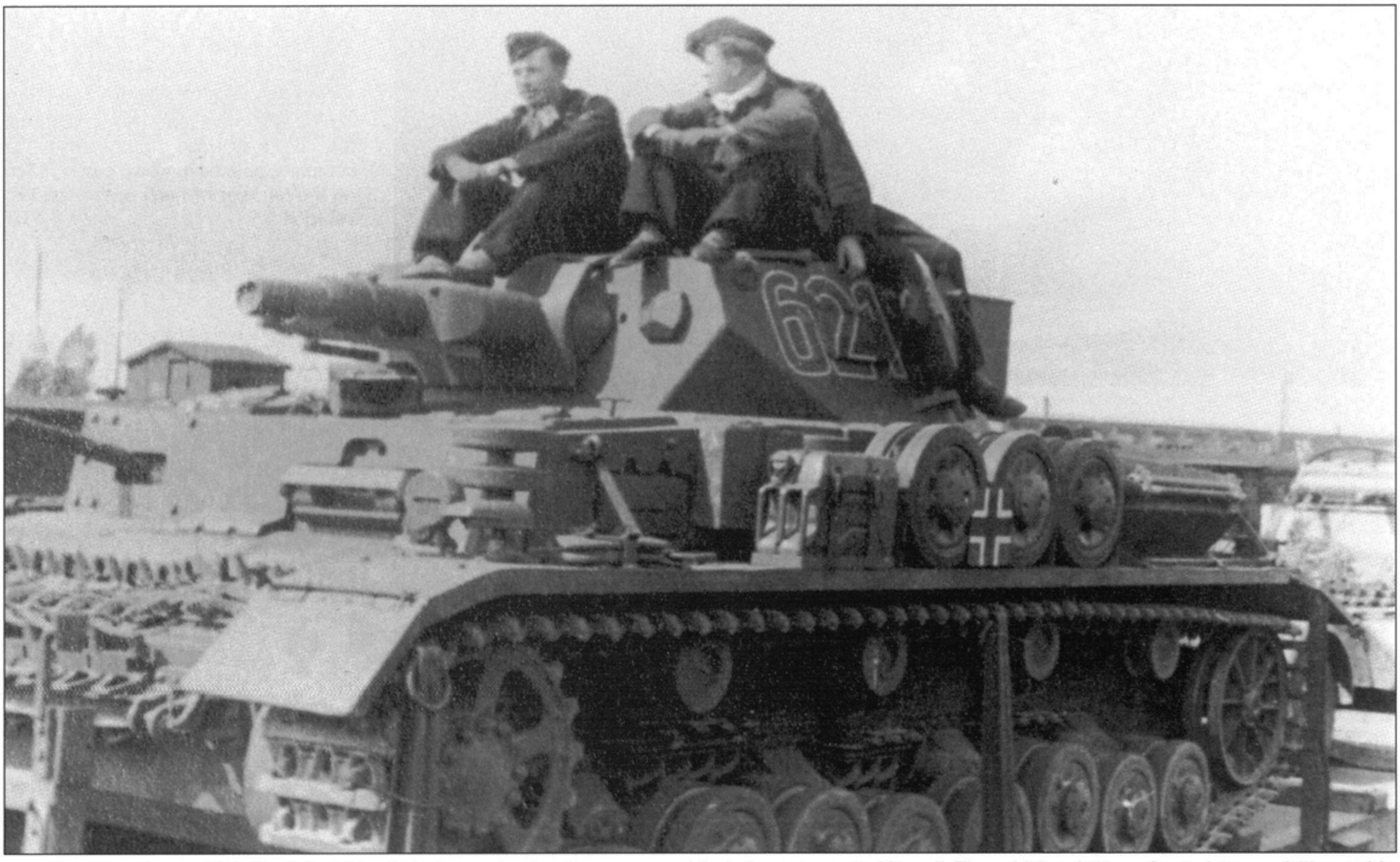




A Panzer-Division parades past the Reich Protector of Bohemia and Moravia, Constantin von Neurath, and several senior German Army officers, in Prague, March 1941, on the second anniversary of the annexation of the Czech Republic into the German Reich. Immediately in front of them is a Panzerbefehlswagen III Ausf.E, identifiable by the large frame antenna over the engine deck and which was equipped with additional radios for mobile command. Depending on the radio equipment fitted, the Sd.Kfz. number varied from 266 to 268.

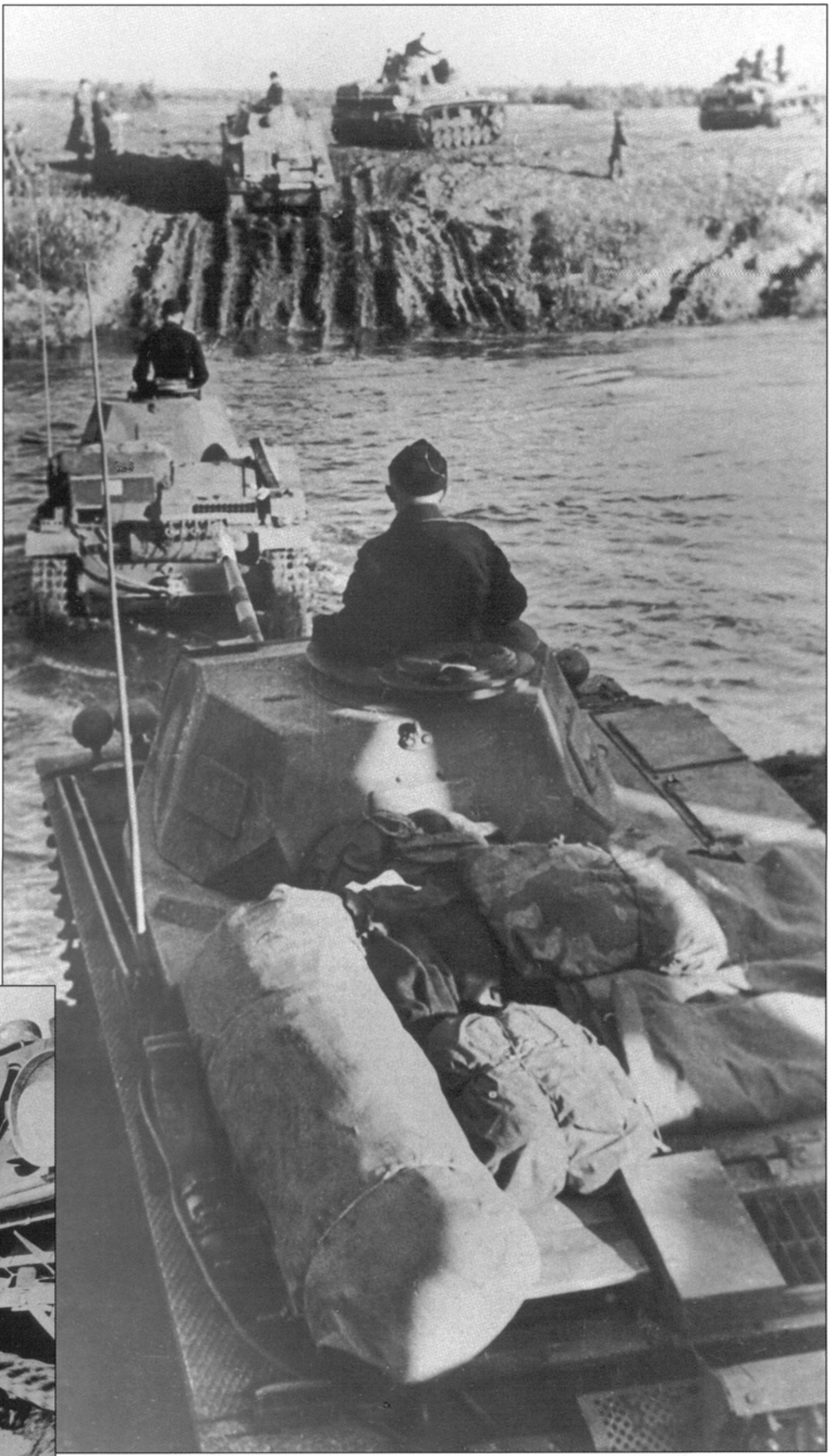


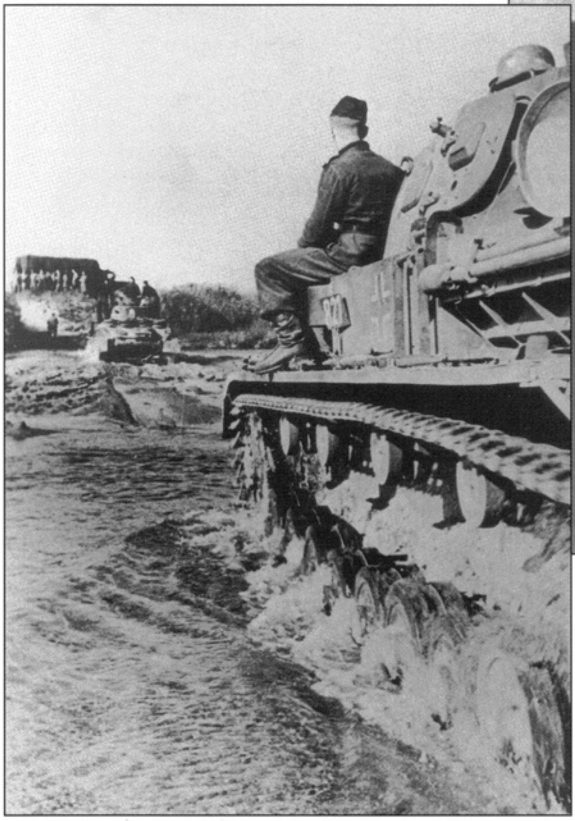
Two Luftwaffe soldiers struggle to free their motorcycles from soft sand at the edge of the sea during a training exercise in February, 1941. The solo machine on the left appears to be a DKW NZ350 while the combination may be a DKW NZ500.



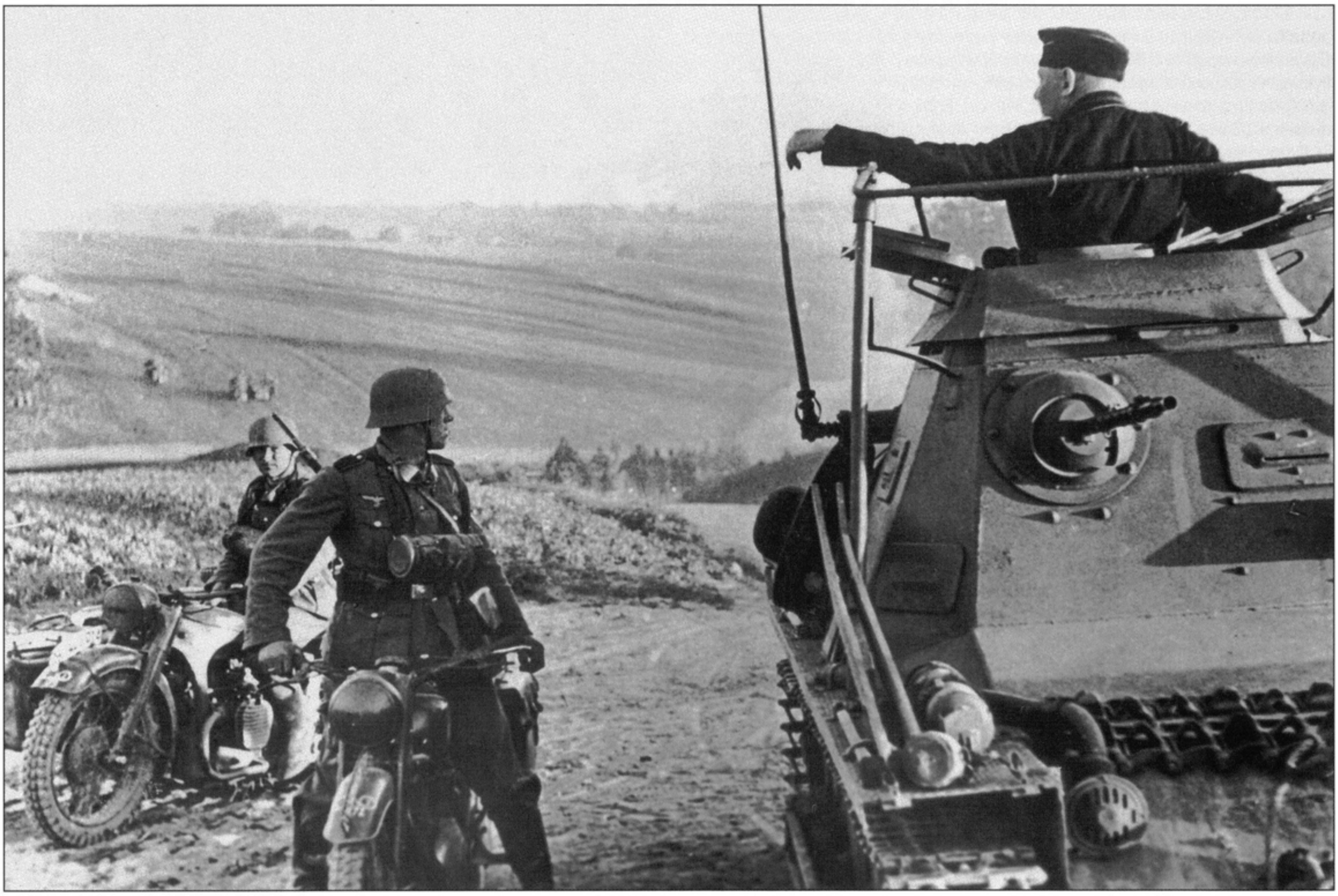
Crew members of this Pz.Kpfw.IV Ausf.E relax and enjoy the scenery while being transported by rail. The additional 30mm front plates and 20mm side plates were a common feature on the Ausf.E. The vehicle is well stowed with additional roadwheels and spare track links including extra links attached to the side of the hull above the roadwheels. Spare return rollers are even mounted near the front corner of the hull. Markings include a national cross painted on a small square plate attached to the mudguard in front of the spare roadwheels and a large tactical number '621' painted in white outline on the turret. A Pz.Kpfw.I is visible in the background on the following rail car.

Three Pz.Kpfw.II Ausf.A-C cross a river behind two Pz.Kpfw.III somewhere near the Soviet border, June 1941. In February 1941, the Panzer-Divisions were reorganized, placing the Pz.Kpfw.II into leichte Panzer-Zug or light platoons of five vehicles each. Note how neatly this crew have arranged their belongings on the engine deck.

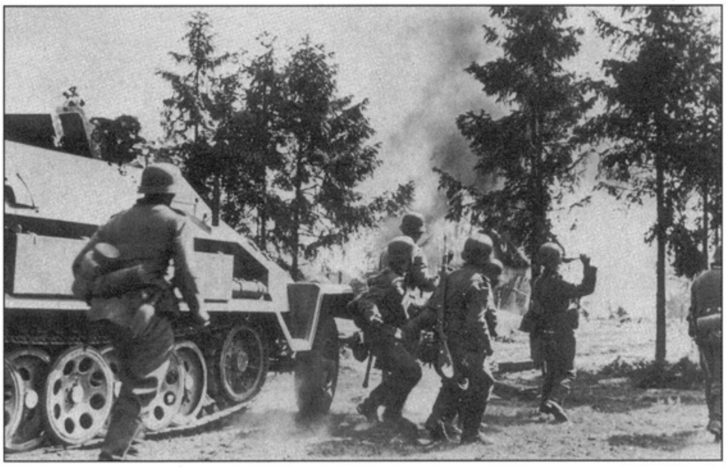




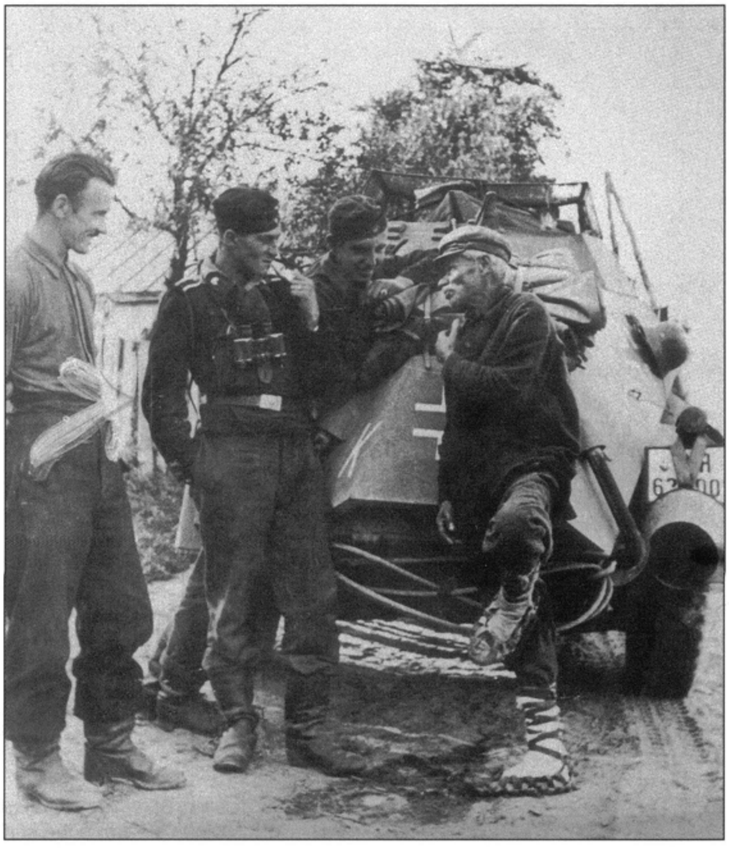
A pair of Pz.Kpfw.IV Ausf.D fording a shallow stream. It is interesting to note that the closest vehicle still carries the old type of tactical numbering painted on a black rhomboid plate. The number indicates it is the first tank in the second platoon of the eighth company. The new organization for a medium company provided for 14 Pz.Kpfw.IV in three platoons and the staff and 5 Pz.Kpfw.II in the light platoon.



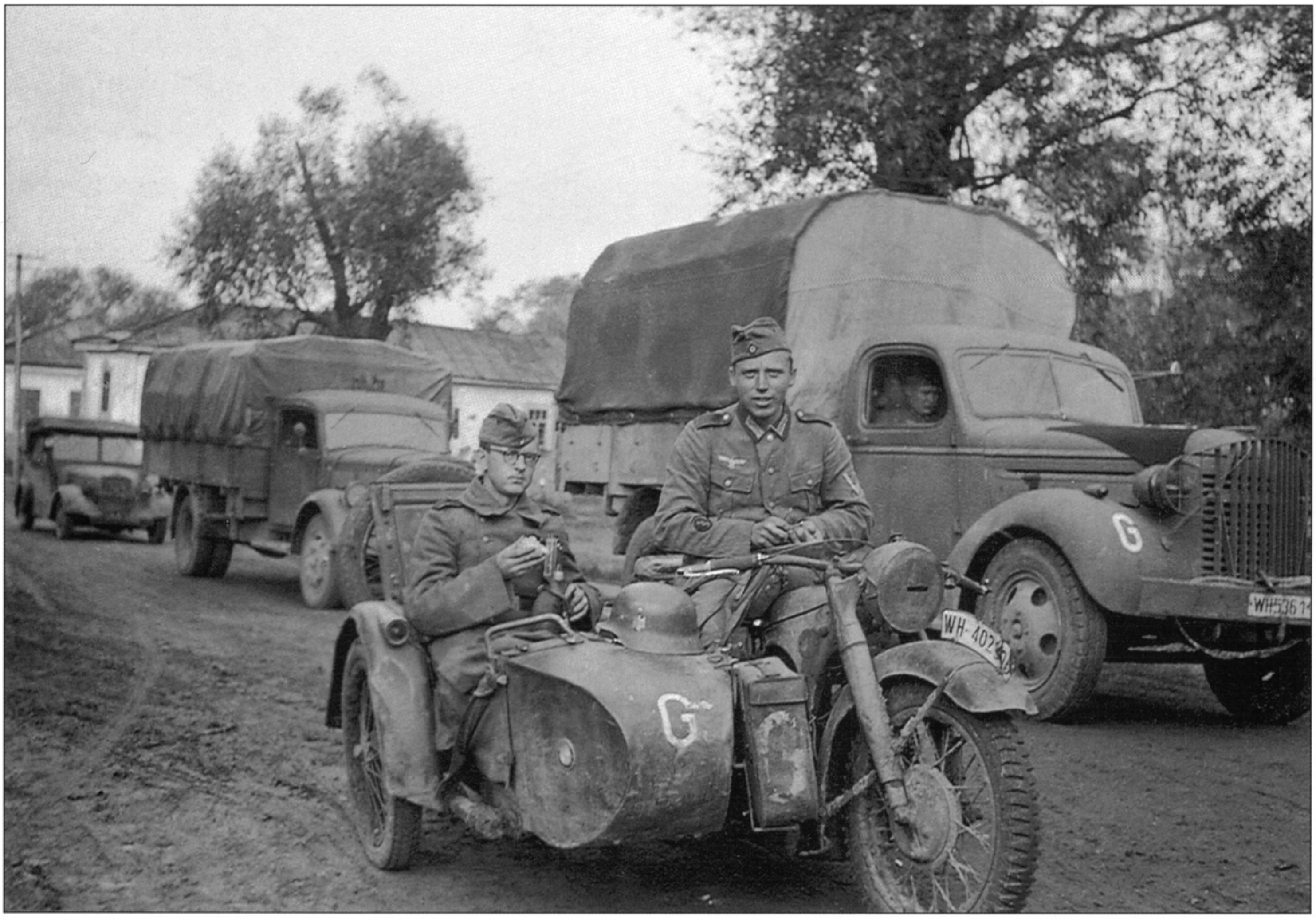
Motorcycle troops report to a battalion commander in his kl.Pz.Bef.Wg.I. These vehicles were equipped with a FuG2 and FuG6 long range radio for communications between battalion headquarters and subordinate units. Their thin armor protection was unsuitable for frontline duties and made their crews vulnerable to most enemy tank guns of the time. The motorcycle combination on the left is a BMW R12 while the solo machine on the right is a DKW NZ350. They both carry the white tactical sign for a motorcycle company with the company number beside it, in this case a '3' on the BMW and a '2' on the DKW. Both also display the emblem for 11.Panzer-Division.



Motorized infantry attack a burning Russian village with stick hand grenades in the early days of Operation 'Barbarossa'. They have been transported into battle by their Sd.Kfz.251/1 Ausf.B armed with a single MG34, which has been back fitted with the armored shield, for support. There were no major differences in the construction of the Ausf.A to Ausf.C, most changes being minor simplifications in the front end.

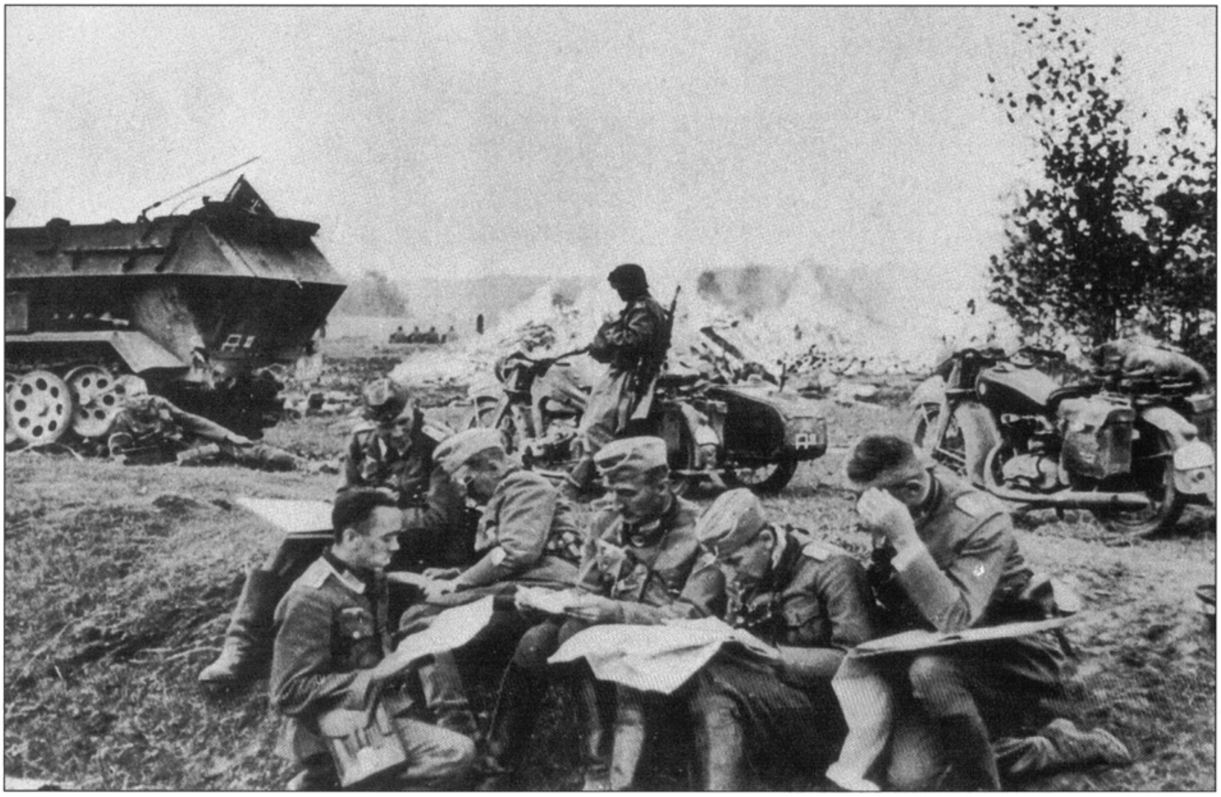


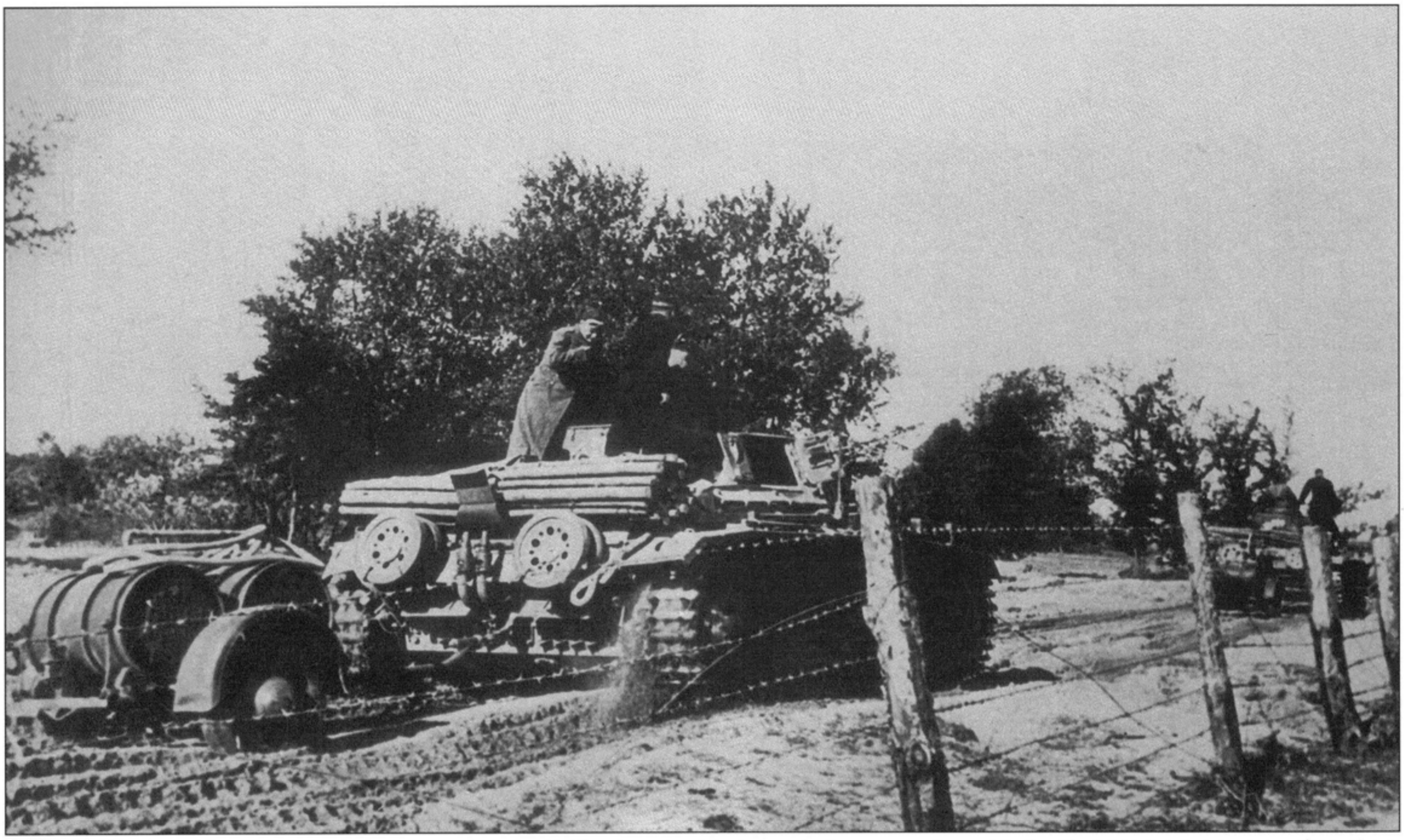
The crew of this Sd.Kfz.222 armored car engage in friendly conversation with a Russian peasant. It is a late production vehicle that features an armored cowl over the radiator grille. Markings are limited to the white outline national cross on the side and back and the white 'K' indicating it is from one of the divisions in Panzer-Gruppe von Kleist along with the standard Wehrmacht registration number plate.



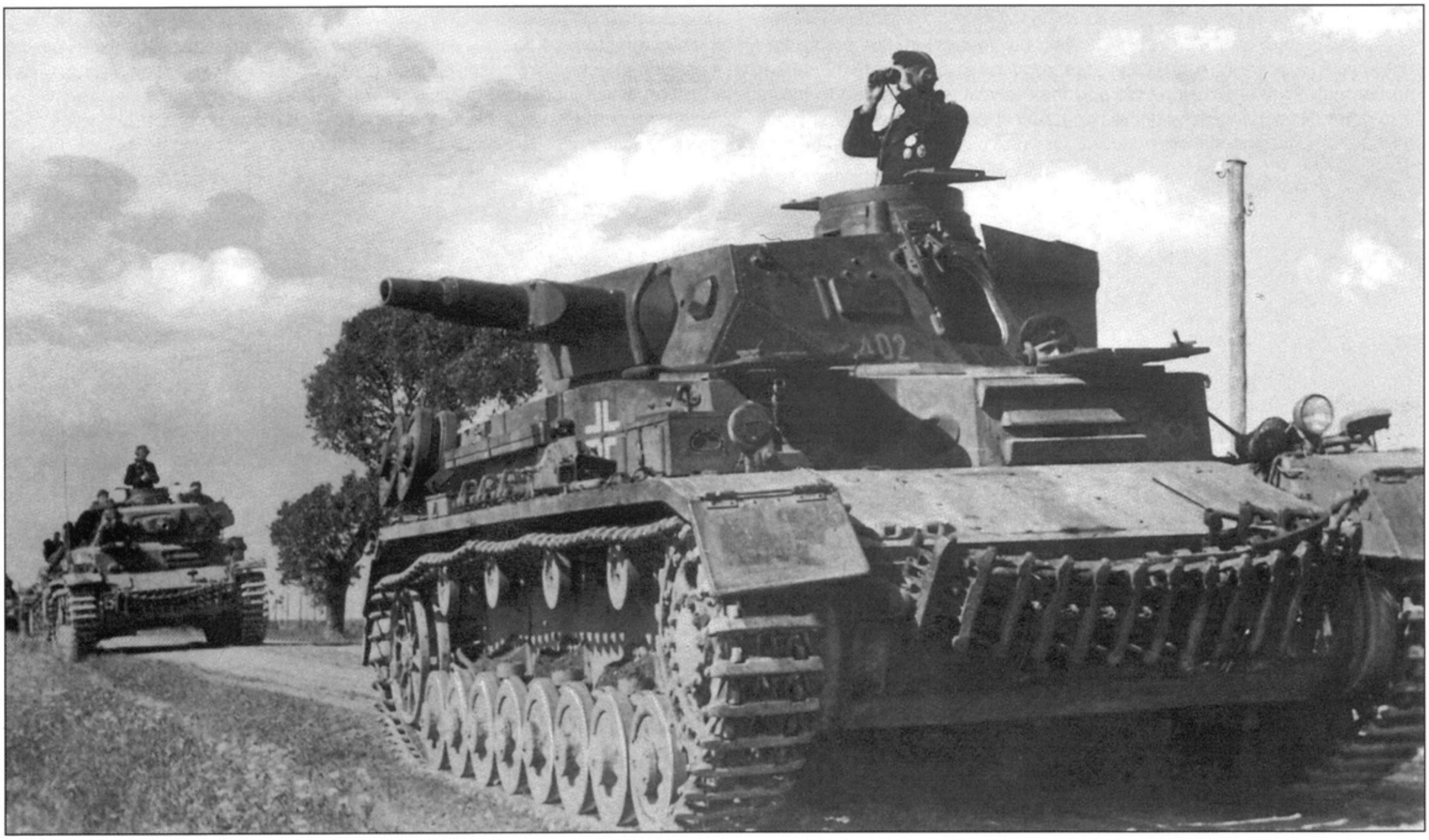
Two soldiers on their BMW R12 motorcycle combination pause for lunch while a motorized column passes behind. The white letter 'G' painted on the motorcycle sidecar and the right mudguard of the truck indicate they are from a division attached to Panzer-Gruppe Guderian. During Operation 'Barbarossa', the German Panzer-Divisions were at their lowest strength due to the reorganization which increased the number of divisions using established regiments from other divisions thereby decreasing their strengths. However, organized into strong corps led by experienced officers and made up of first class soldiers, the Panzer-Divisions still provided the German high command with the force needed to effectively demolish enemy resistance.

A group of officers study their maps while a Russian farm building burns in the background. Their command vehicle, an Sd.Kfz.251/3 Ausf.B, displays a pennant with the tactical sign for a self-propelled artillery battalion. The tactical sign painted on the rear of the half-track and the Zündapp KS600 motorcycle combination sidecar is that of a second battalion headquarters staff vehicle of a motorized infantry division. The motorcycle on the right is a DKW NZ350.

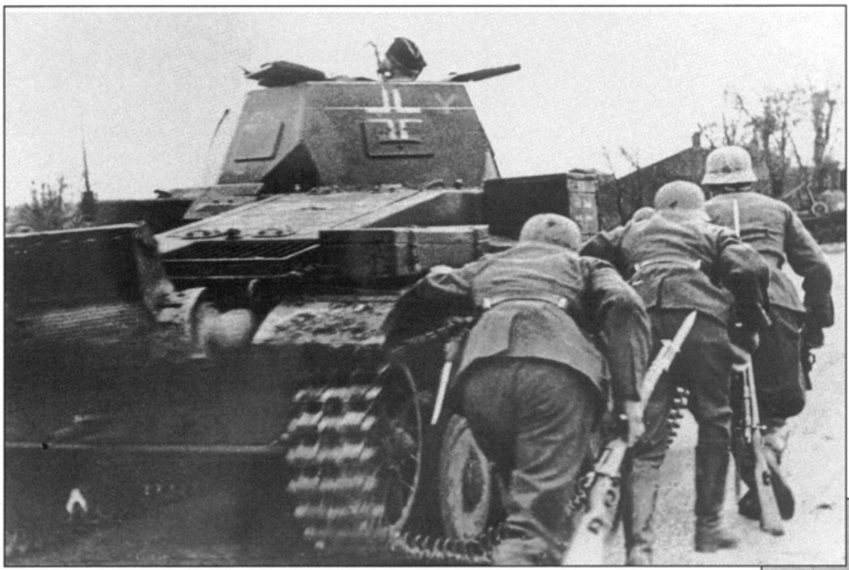




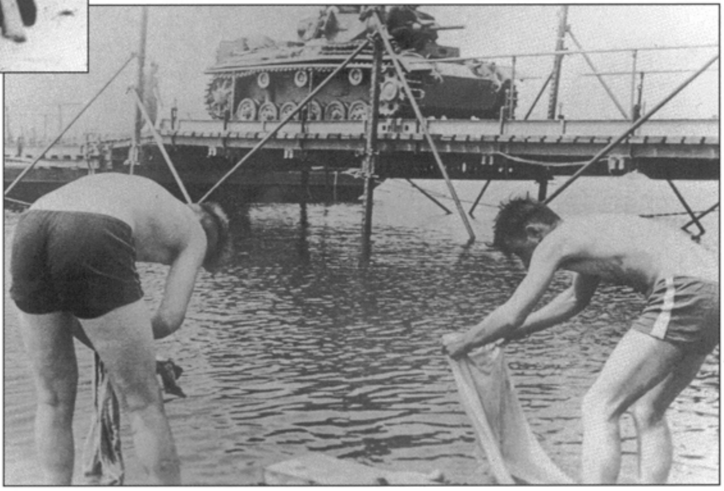
A Tauchpanzer III towing a special trailer carrying two 200 liter barrels of fuel, travels down a sandy road in the Soviet Union in late June 1941. From July to October 1940, 168 Tauchpanzer were converted from Pz.Kpfw.III Ausf.F, G and H in preparation for Operation 'Sea Lion', the invasion of Great Britain. When the operation was canceled, seventy-five percent of the vehicles were attached to 18.Panzer-Division with the remainder going to 4.Panzer-Division. The twin exhaust pipes with the specially designed backflow valves can be seen between the two spare roadwheels mounted on the rear plate.



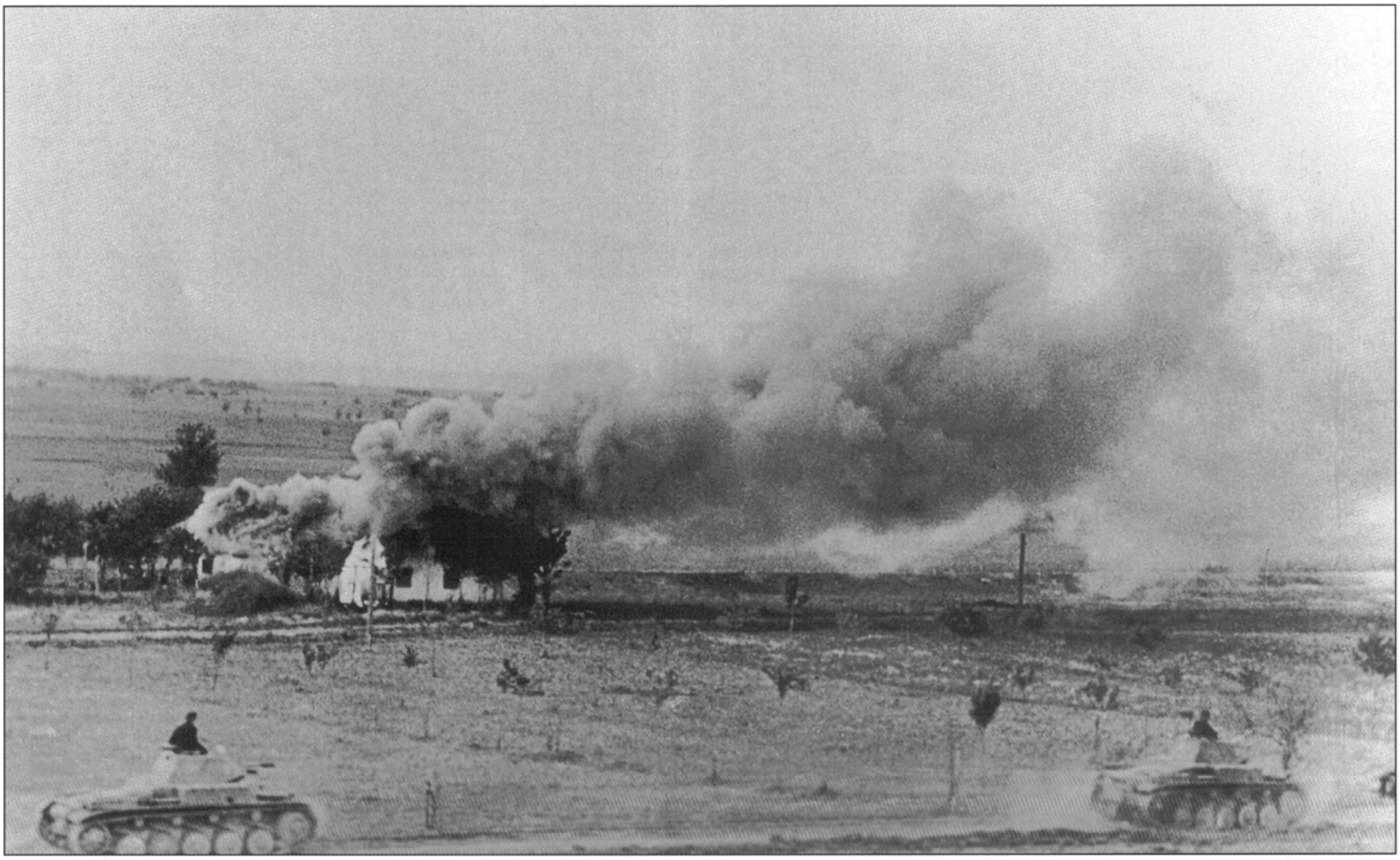
A column of tanks led by a Pz.Kpfw.IV Ausf.D marching across northern Russia in 1941. The tank belongs to 6.Panzer-Division and was assigned to 4th company staff, which was issued with two such vehicles. The tactical number, '402', seen on the side of the turret under the vision flap, was painted in yellow, as was the divisional emblem, 'XX', visible next to the driver's visor. The front roadwheel and one of the spares mounted on the side of the hull are fitted with the later production hub introduced on the Pz.Kpfw.IV Ausf.E.



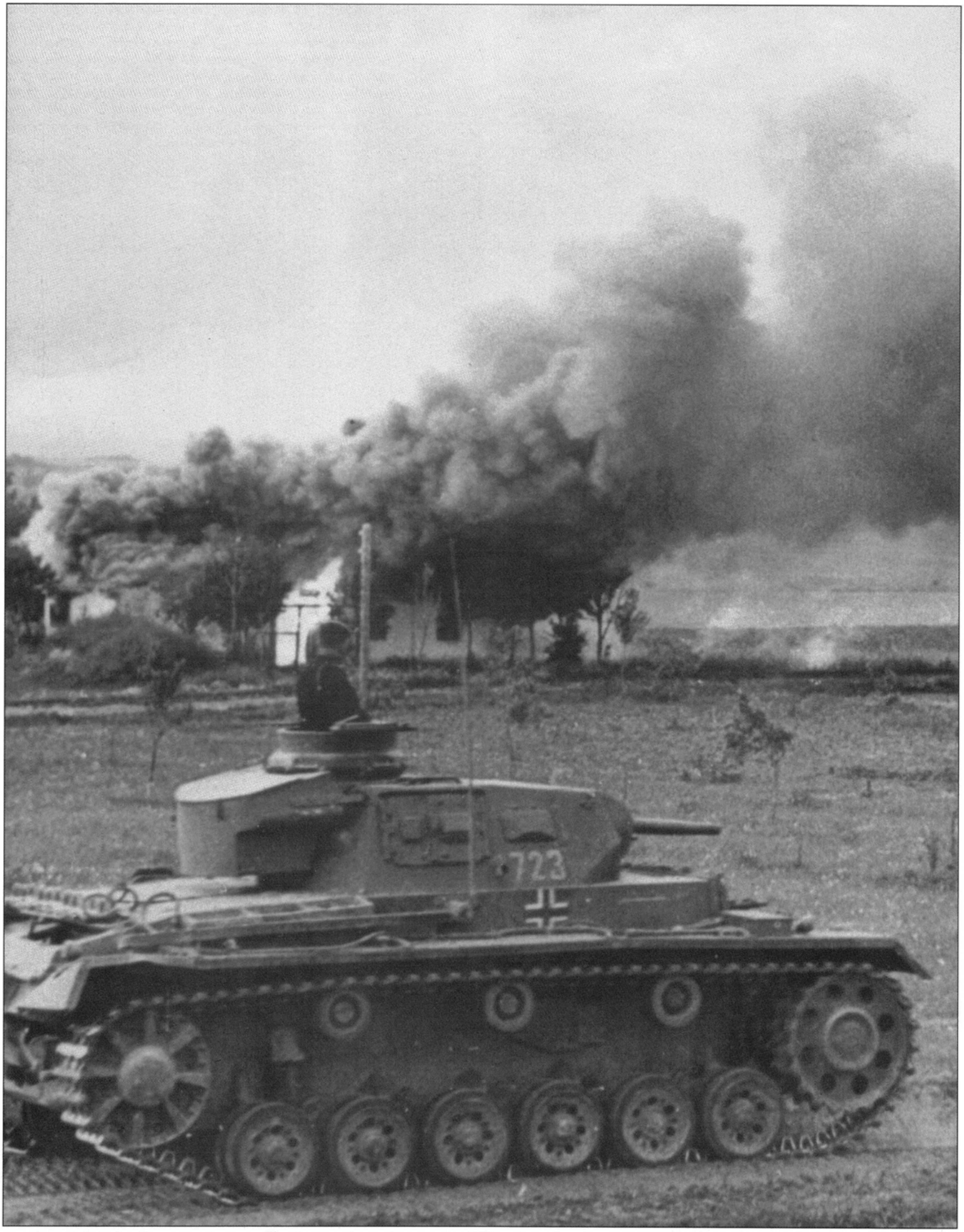
Infantry cautiously advance under the protection of a Pz.Kpfw.II Ausf.A-C in the early part of the campaign in Russia. The divisional emblem for 7.Panzer-Division, a yellow 'Y' is painted on the upper right corner of the turret next to a white outline national cross. Barely visible in the background is a version of the Ladungsleger, or demolition charge laying tank, based on the chassis of the Pz.Kpfw.I Ausf.B. Ten of these vehicles were assigned to the third company of each Pioneer Battalion of each Panzer-Division.



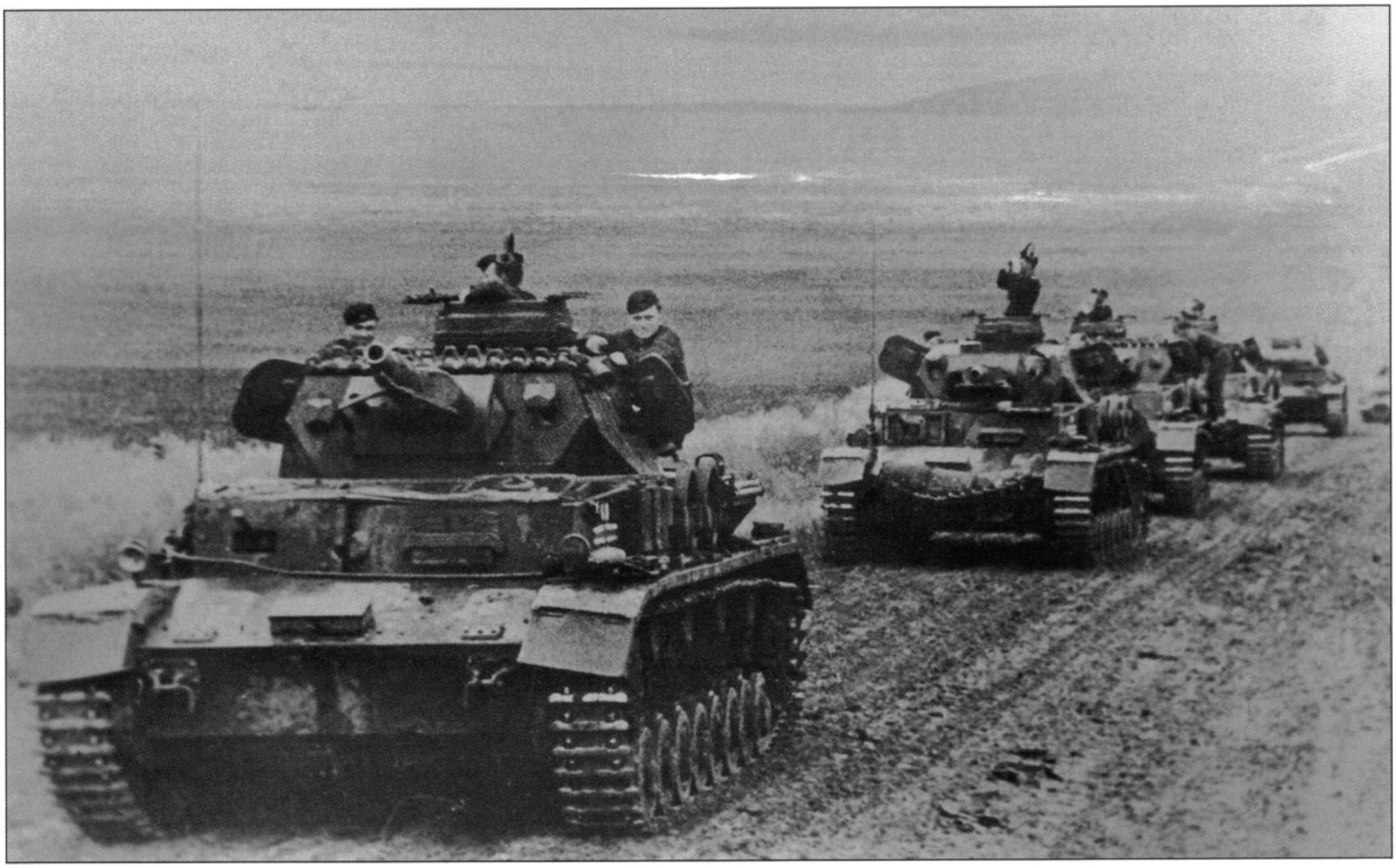
During Operation 'Barbarossa', the Pz.Kpfw.III medium tank formed the core of the Panzertruppe. Here we see a Pz.Kpfw.III Ausf.G crossing a bridge built by German Pioneers. It has been fitted with an additional 30mm armor plate on the front of the upper hull and the wider 40cm tracks which are accommodated by the installation of a spacer ring around the drive sprocket. Part of the tactical number, a large white '2', is faintly visible on the side of the turret.



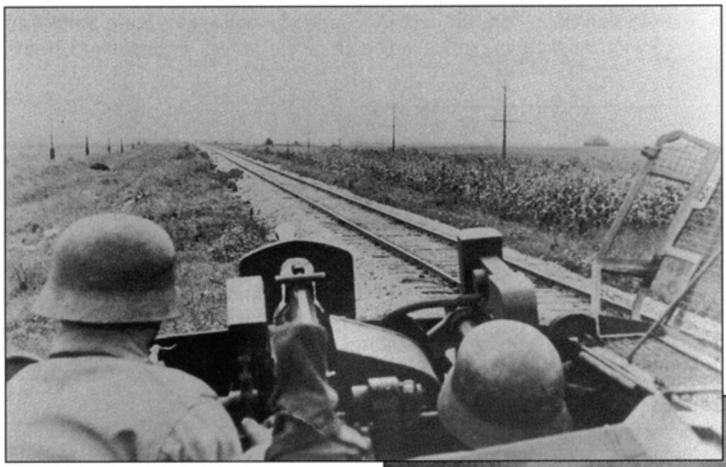
A pair of Pz.Kpfw.II Ausf.A-C pass by a burning farm house somewhere in the Ukraine in July 1941. Both vehicles have faint tactical numbers visible on the turret sides but no national crosses seem to have been applied.



A Pz.Kpfw.III Ausf.E passes the same farmhouse. The tactical number '723', painted in yellow, is plainly visible on the side of the turret, as is the black and white national cross on the side of the hull. Turret stowage bins were introduced on the Ausf.G but were fitted to many early vehicles in the field workshops.

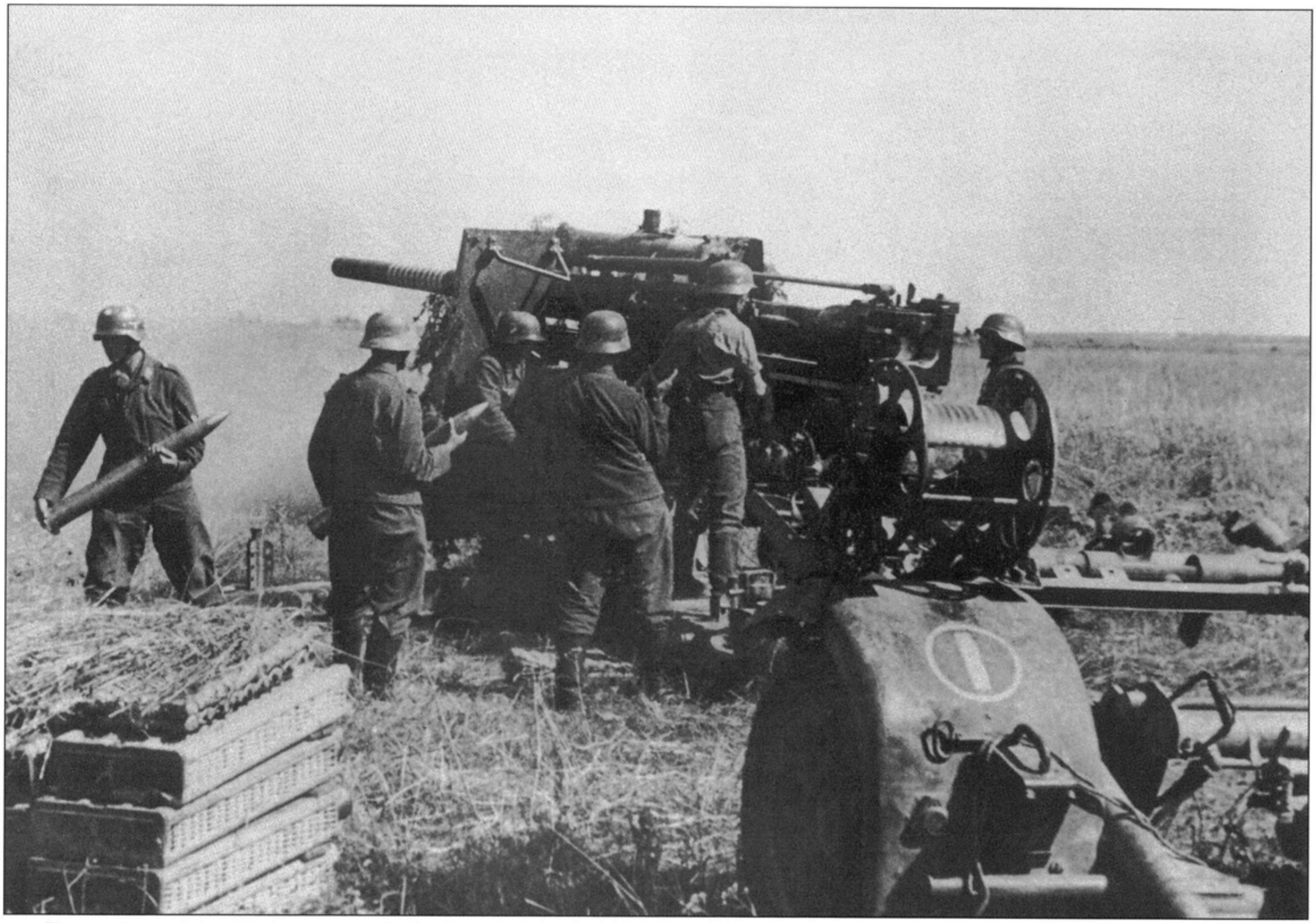


A column of tanks and softskin vehicles led by a platoon of Pz.Kpfw.IV Ausf.E carrying the emblem of 9.Panzer-Division beside the driver's visor. At the time, the Pz.Kpfw.IV was the heaviest tank in the German arsenal. Compare these vehicles to the photo of the ones crossing the Danube into Bulgaria seen earlier in this book. Unusually, the spare roadwheels carried on the first vehicle are two single wheels and not pairs. Also, the second vehicle in line does not have the additional 30mm armor plate installed on the front of the hull although the mounting brackets for it have been.

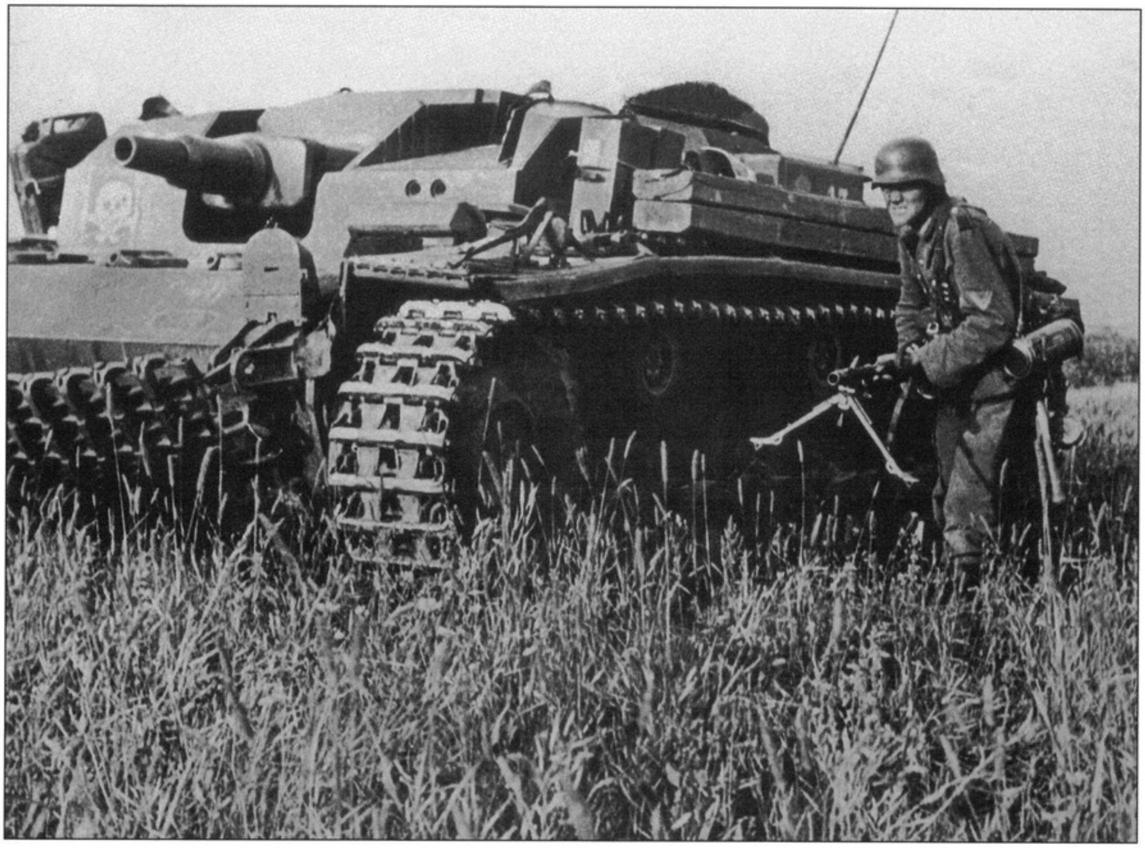


A view of the Russian landscape as seen from the turret of an Sd.Kfz.222 armored car in the summer of 1941. In between the two soldiers, the 2cm KwK38 can be seen. During Operation 'Barbarossa', the Sd.Kfz.222 was the most widely used vehicle in the Aufklärungsabteilungen.

German soldiers photographed in the heat of battle supported by a Horch Kfz.15 medium cross-country car equipped with an MG34 anti-aircraft machine gun. This type of vehicle was employed in large numbers in all the Panzer-Divisions.

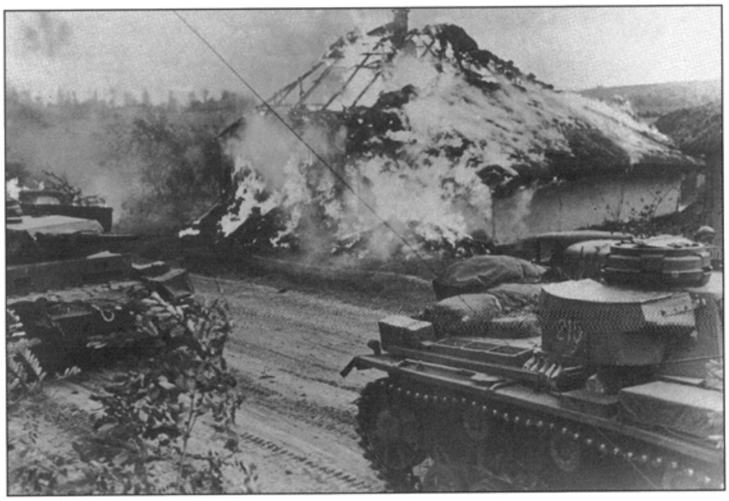


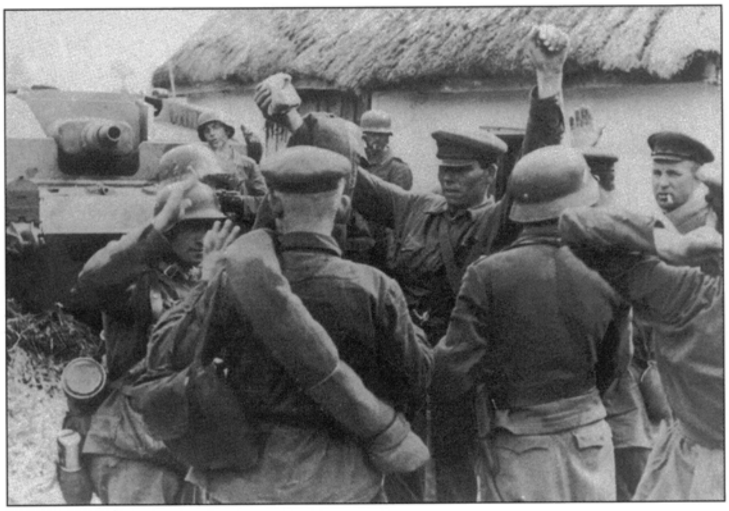
The most powerful anti-tank gun in use by the German Army was the 8.8cm FlaK18 and 36/37, shown here in full recoil. These guns were employed by Luftwaffe FlaK units and manned by Luftwaffe personnel. The crew of this gun are obviously experienced as indicated by the ten kill rings painted on the barrel. A tactical marking is painted on the mudguard of the trailer in the foreground.



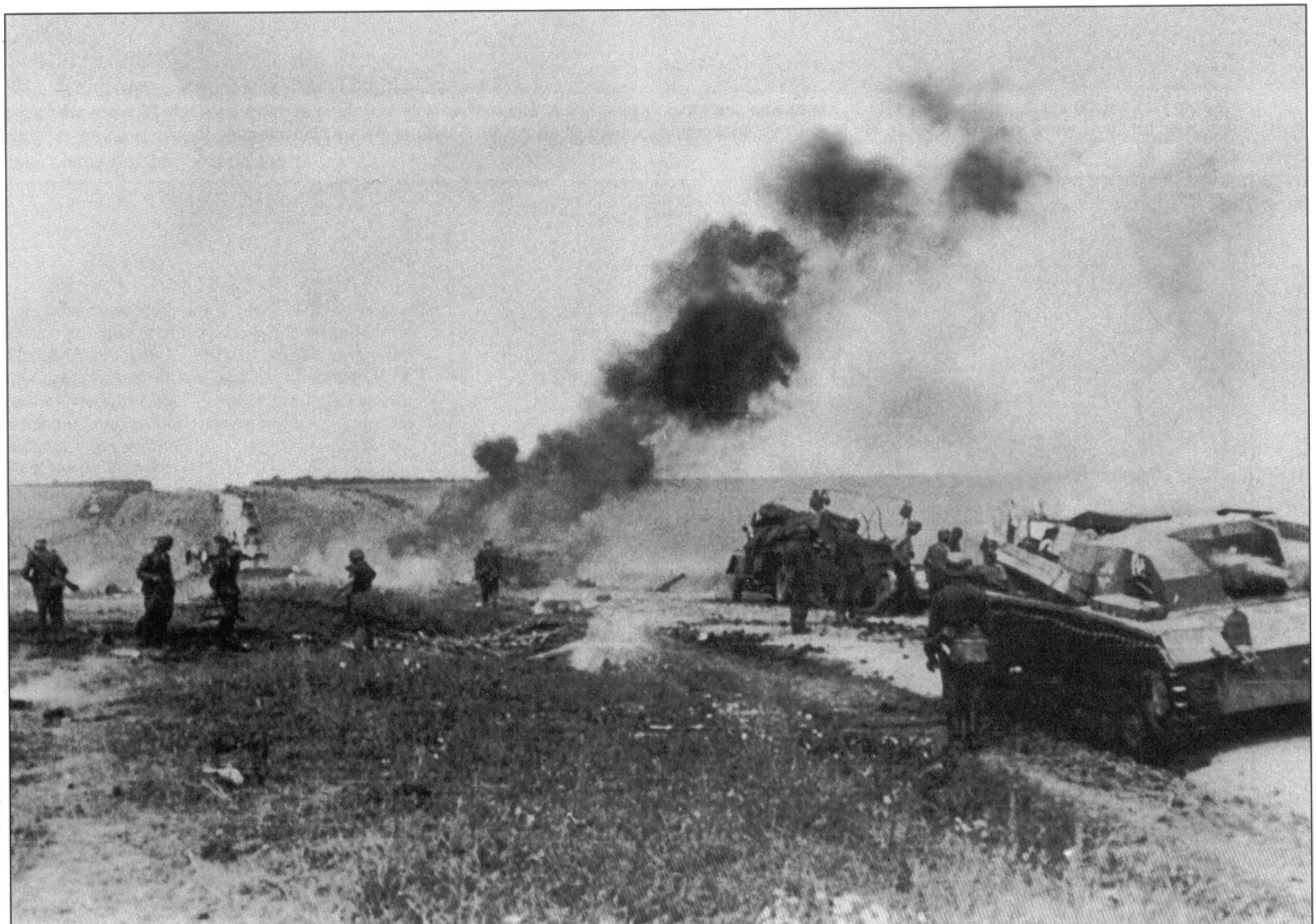
Experiences during Operation 'Barbarossa' proved the importance of Sturmartillerie on the modern battlefield. Similar to the Tiger battalions, most Sturmgeschütz were organized into independent Sturmgeschütz-Abteilung and Brigades. This one, with the tactical number '13', is a StuG.III Ausf.B from StuG.Abt.192 which carried a very prominent unit emblem on its vehicles. The emblems were painted red for the first battery, yellow for the second and green for the third. The platoons in each battery were numbered the same so it is almost impossible to determine the battery a vehicle belonged to by its number. The exceptions are the battery commander's vehicles which carried a single digit number. The tactical sign for self-propelled artillery is painted in yellow on the glacis with the battery and Abteilung numbers, '1/192', inside.

A reworked Pz.Kpfw.III Ausf.F follows a Pz.Kpfw.III Ausf.G through a burning Russian village. Abandoned and burning Soviet trucks can be seen in the street behind. A large number of Ausf.F were refitted with the 5cm KwK L/42 gun and had an additional 30mm armor plate welded to the front of the superstructure starting in 1940. The tactical numbers indicate both vehicles are from the second company, the one on the left is the fifth tank in the third platoon and the one on the right is the fifth tank in the first platoon.

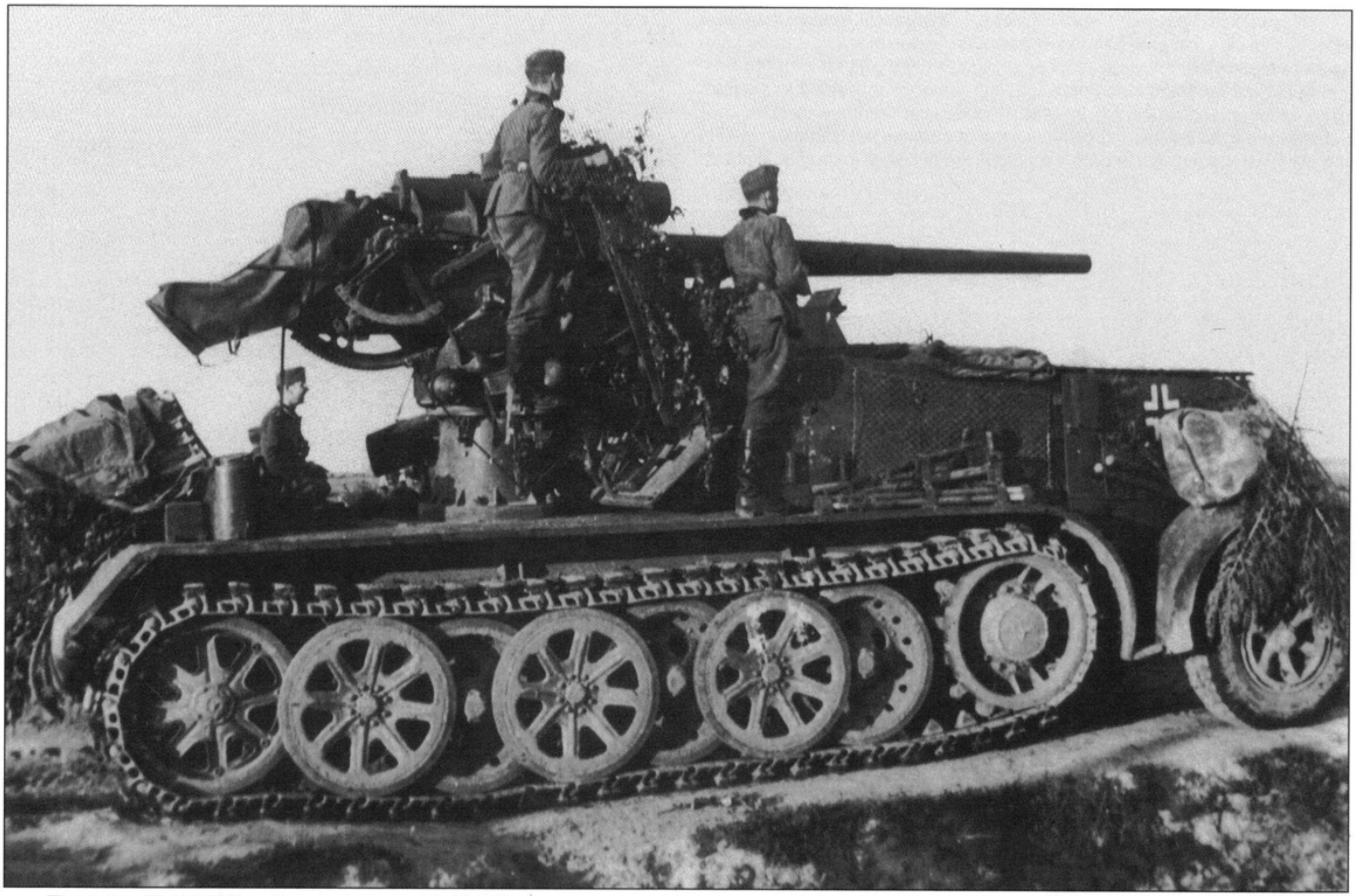




In the summer of 1941, Sturmgeschütz were employed mainly in the role of infantry support. Here we see German soldiers, supported by a StuG.III Ausf.B from an unidentified unit, taking Soviet POWs in a village in September 1941. The StuG.III seems to have a camouflage pattern painted on it which is unusual for this period.

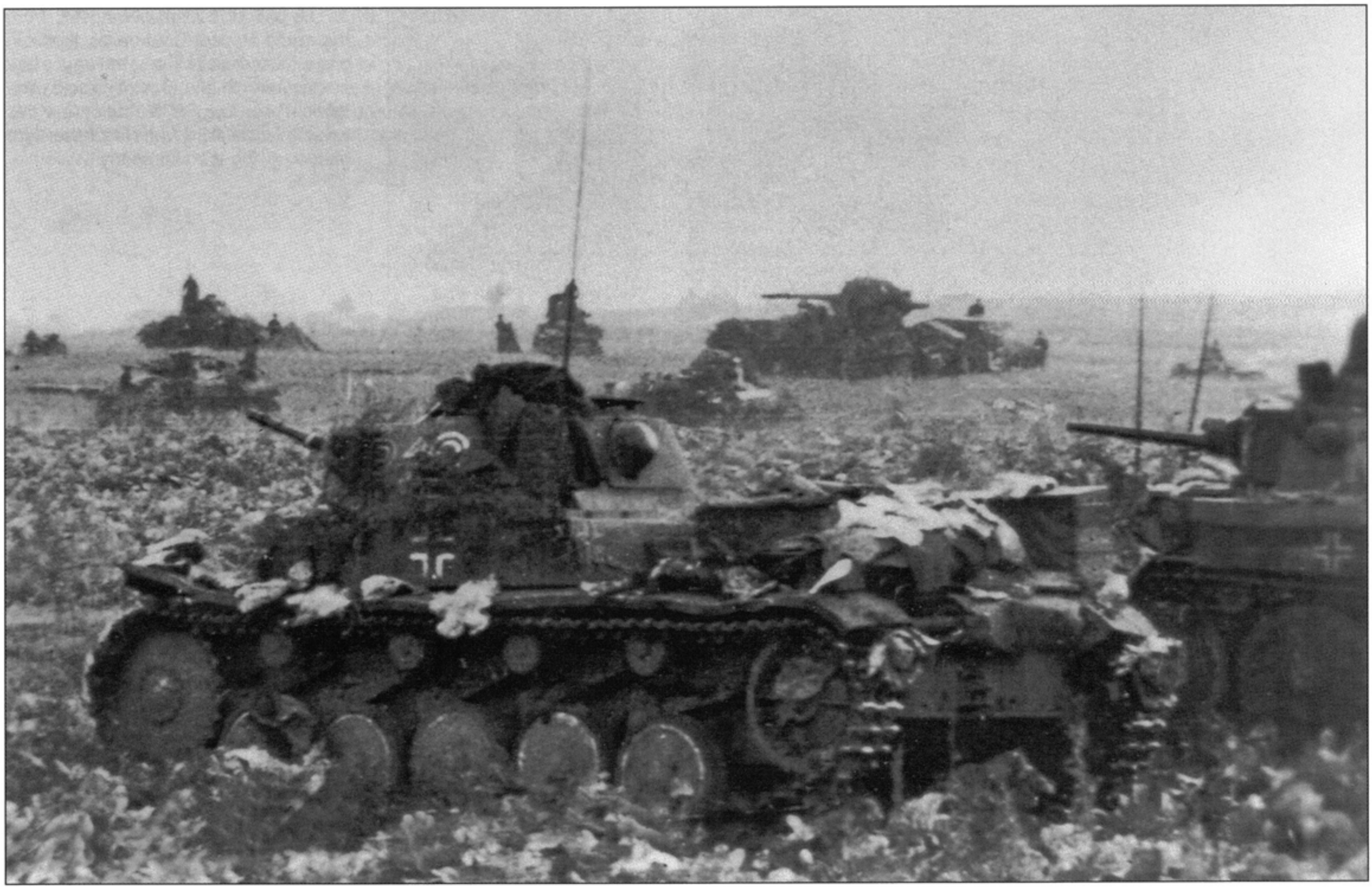


This photo of a German column was taken just after a Soviet artillery barrage, which has destroyed one of the vehicles. The StuG.III Ausf.B on the right carries an unidentified marking on the side of the superstructure just in front of the national cross.

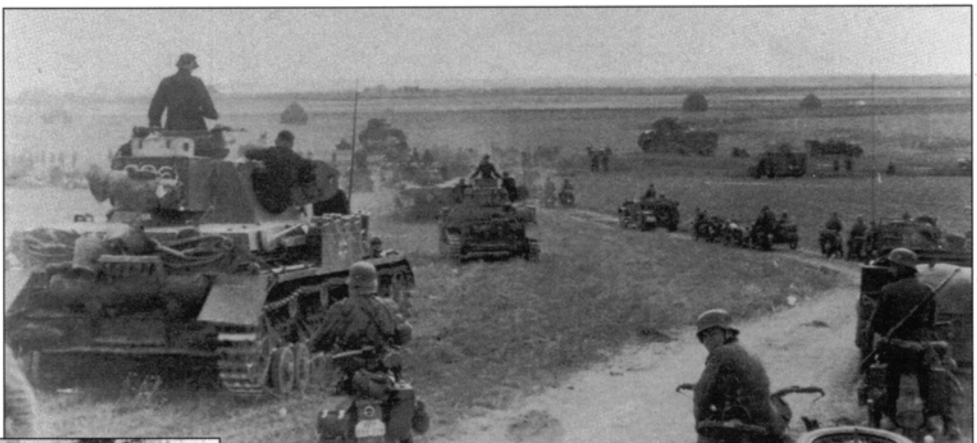


The 8.8cm FlaK18(Sfl) auf Zugkraftwagen 12t (Sd.Kfz.8) was used mainly as a heavy anti-tank vehicle in Poland and France. Only 25 were produced in 1939 and 1940 and they were issued to s.Pz.Jg.Abt.8. Subsequent versions were built on the 18t FAMO and were also intended for use in an anti-aircraft role.

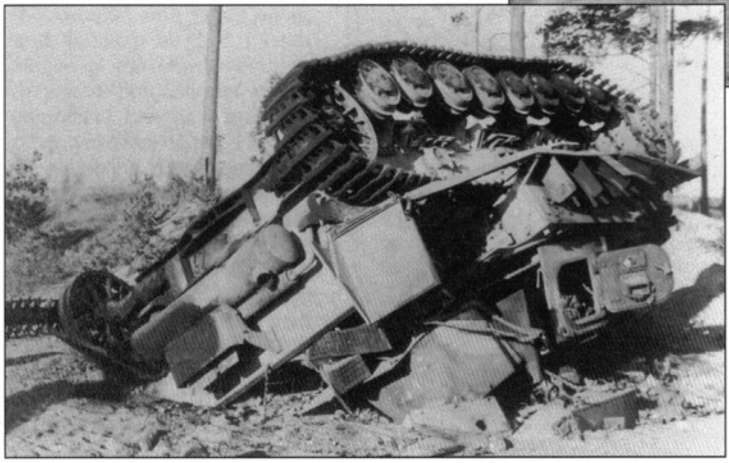
A platoon of Pz.Kpfw.38(t) supported by two 8.8cm FlaK18(Sfl) auf Zgkw 12t (Sd.Kfz.8). The nearest one is a command vehicle and has the tactical number 'I03' painted on the turret. Note how large the support vehicles are compared to the diminutive Pz.Kpfw.38(t).



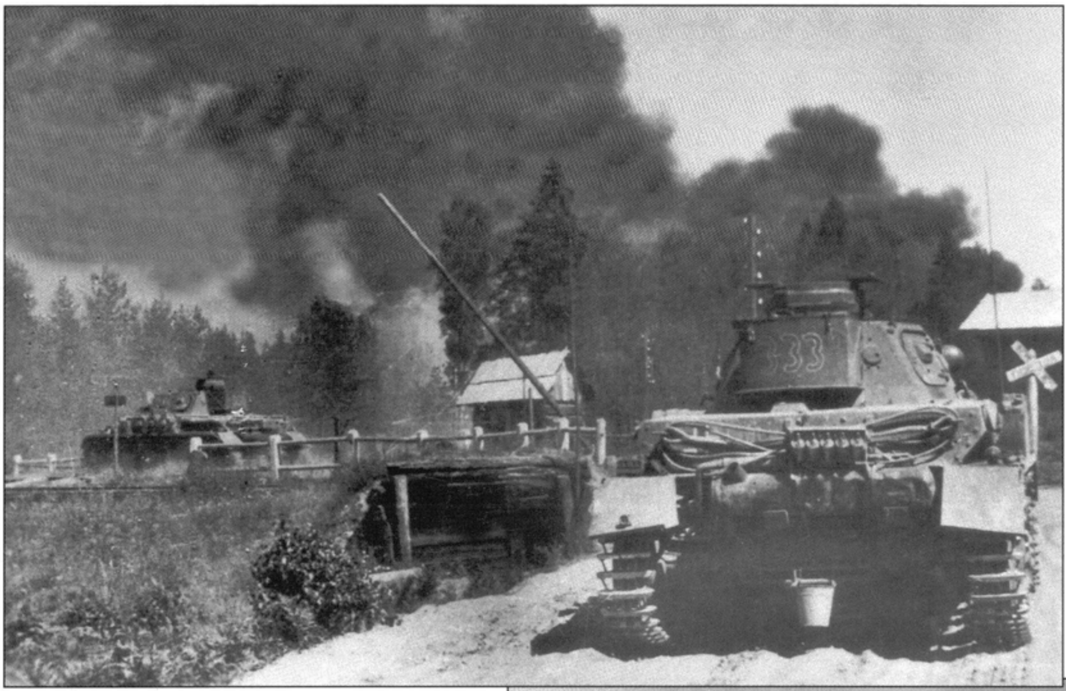
Regimental staff vehicles of a Panzer-Division halt in a field in Russia in late summer, 1941. Visible in the background are two 8.8cm FlaK18(Sfl) auf Zgkw 12t (Sd.Kfz.8) and several other vehicles that have made some attempt at camouflaging themselves in the open ground. The Pz.Kpfw.II Ausf.A-C in the foreground has the tactical number 'R12' painted on the turret, possibly red with a white outline, while only the first letter of the tactical number can be seen on the Pz.Kpfw.38(t) behind it.



Mixed vehicles from one of the Panzer-Divisions make their way along a dirt road in the Soviet Union. The Pz.Kpfw.IV Ausf.E on the left has a non-standard stowage bin attached to the rear of the turret and a special stowage rack for additional fuel cans on the right mudguard. The tactical number painted on the rear of the Pz.Kpfw.IV in front of it is '614'. As well, the tactical sign for a motorized anti-tank unit is painted on the rear of the vehicle in front of the motorcyclist on the right.

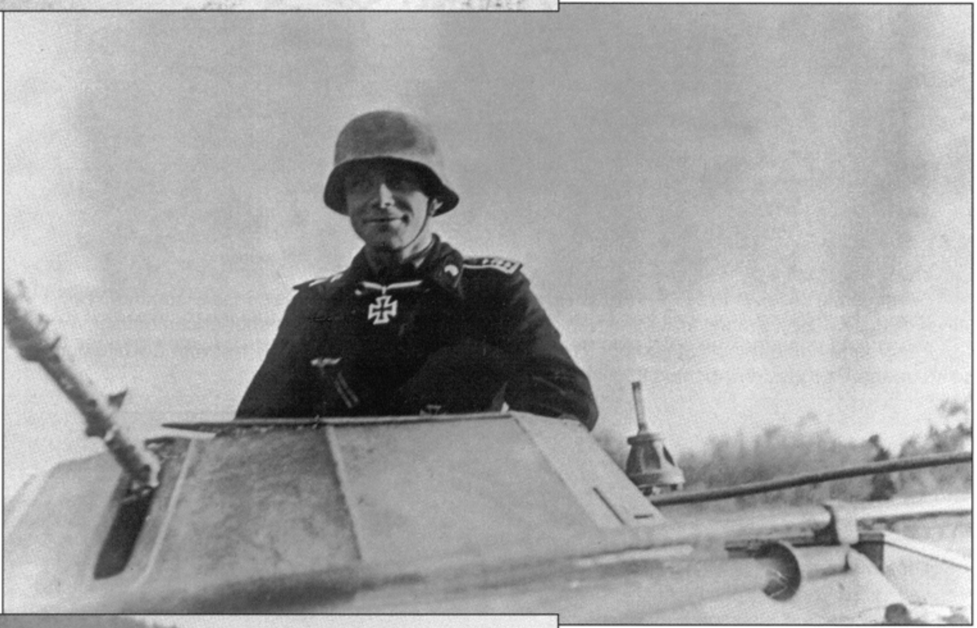


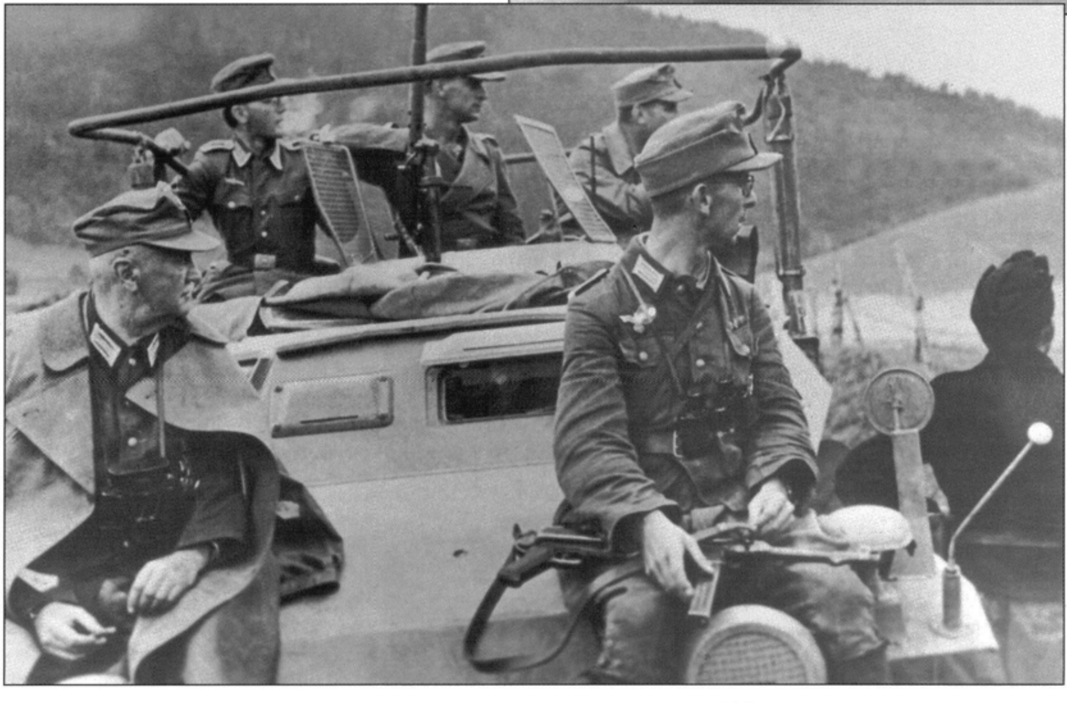
This Pz.Kpfw.IV Ausf.E has been completely demolished and burned out as a result of a Soviet bombing attack. During the summer battles in the Soviet Union, the Panzer-Divisions lost 125 Pz.Kpfw.IV while only receiving 10 replacements.



A pair of Pz.Kpfw.IV Ausf.E from the same Panzer-Division as those in page 69 cross a railway line somewhere in the Soviet Union. The tactical number '333' indicates this vehicle is the third vehicle of the third platoon in the third company.

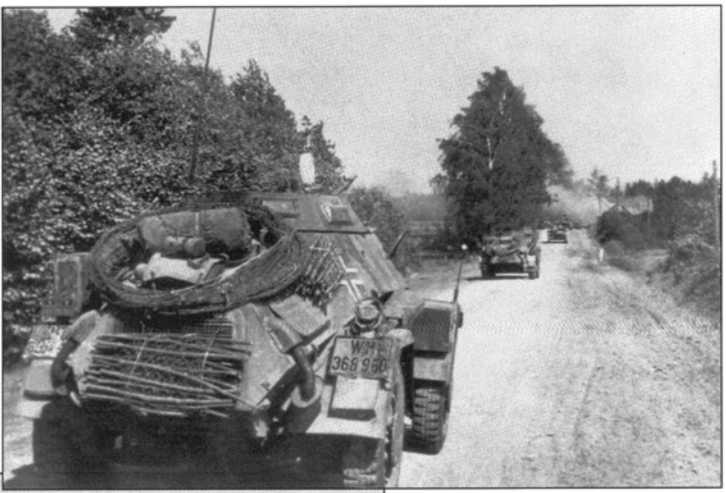
An anonymous Knight's Cross winner from a reconnaissance battalion poses for a photograph in the turret of his leichte Panzerspähwagen (Fu) (Sd.Kfz.223). The frame antenna is lowered which would indicate it is not in use at the time.

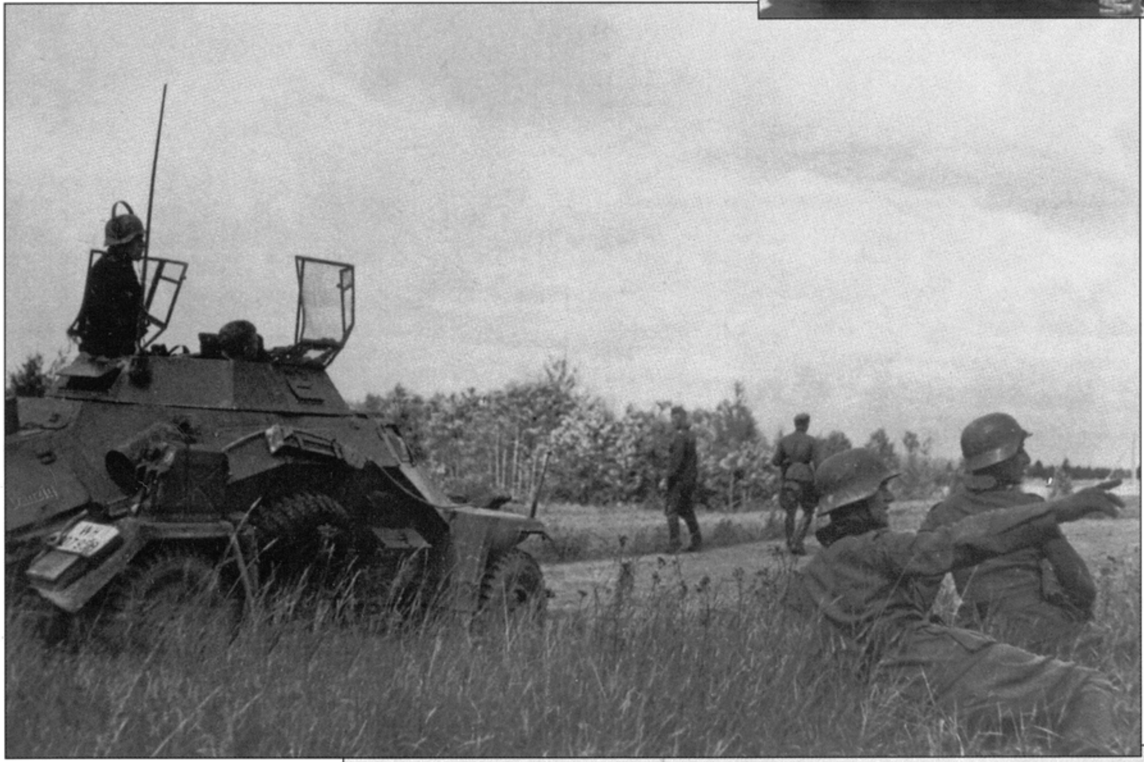




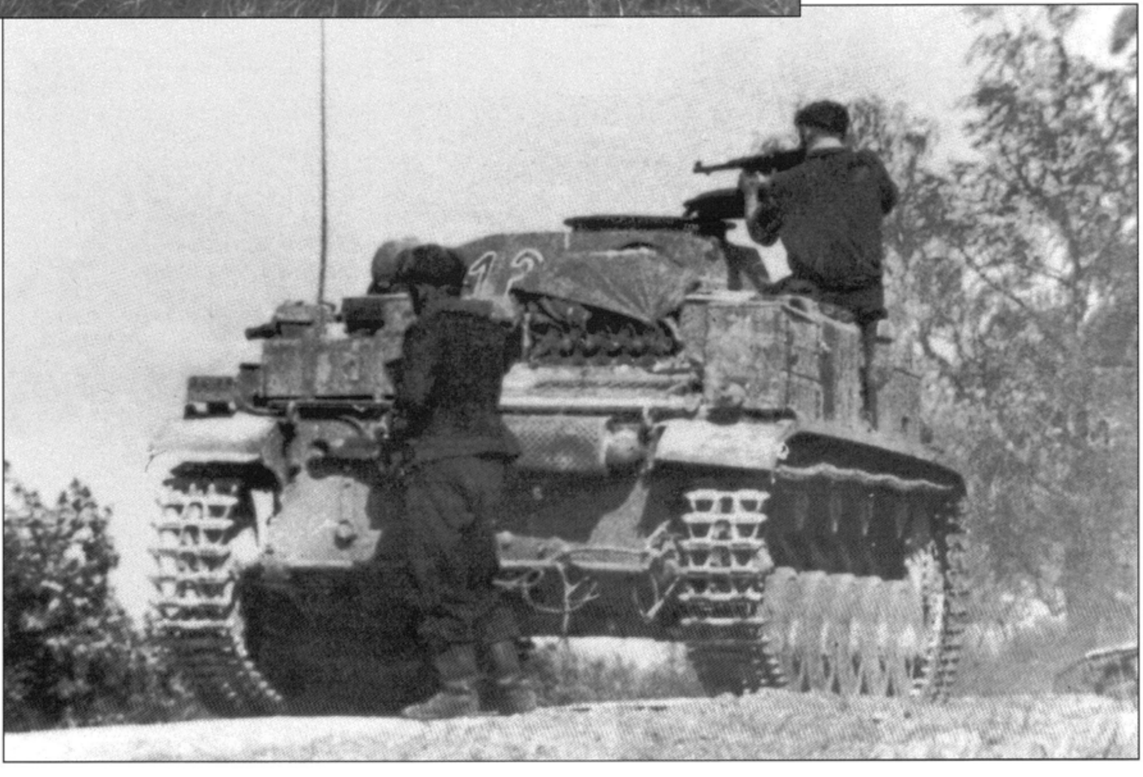
Two officers catch a ride on the front of this late version Sd.Kfz.223. The men's attention seems to be drawn to some action taking place off to the side. The officer on the left appears to be high ranking though probably not higher than an Oberst judging from his collar patches. He is also wearing a custom made field cap, similar in design to the M1943 cap worn by the other officer, but of a lighter weight material.

Reconnaissance troops in an Sd.Kfz.221 follow behind an Sd.Kfz.223 as they approach the scene of some recent action. The armored car is carrying a large roll of barbed wire and two bundles of fascines, here, small tree branches rolled up in chicken wire, to assist in recovering the vehicle if it should become bogged down in soft ground. A heavy layer of dust covers the lower portion of the vehicle almost obscuring the registration number plate, 'WH 368960'.

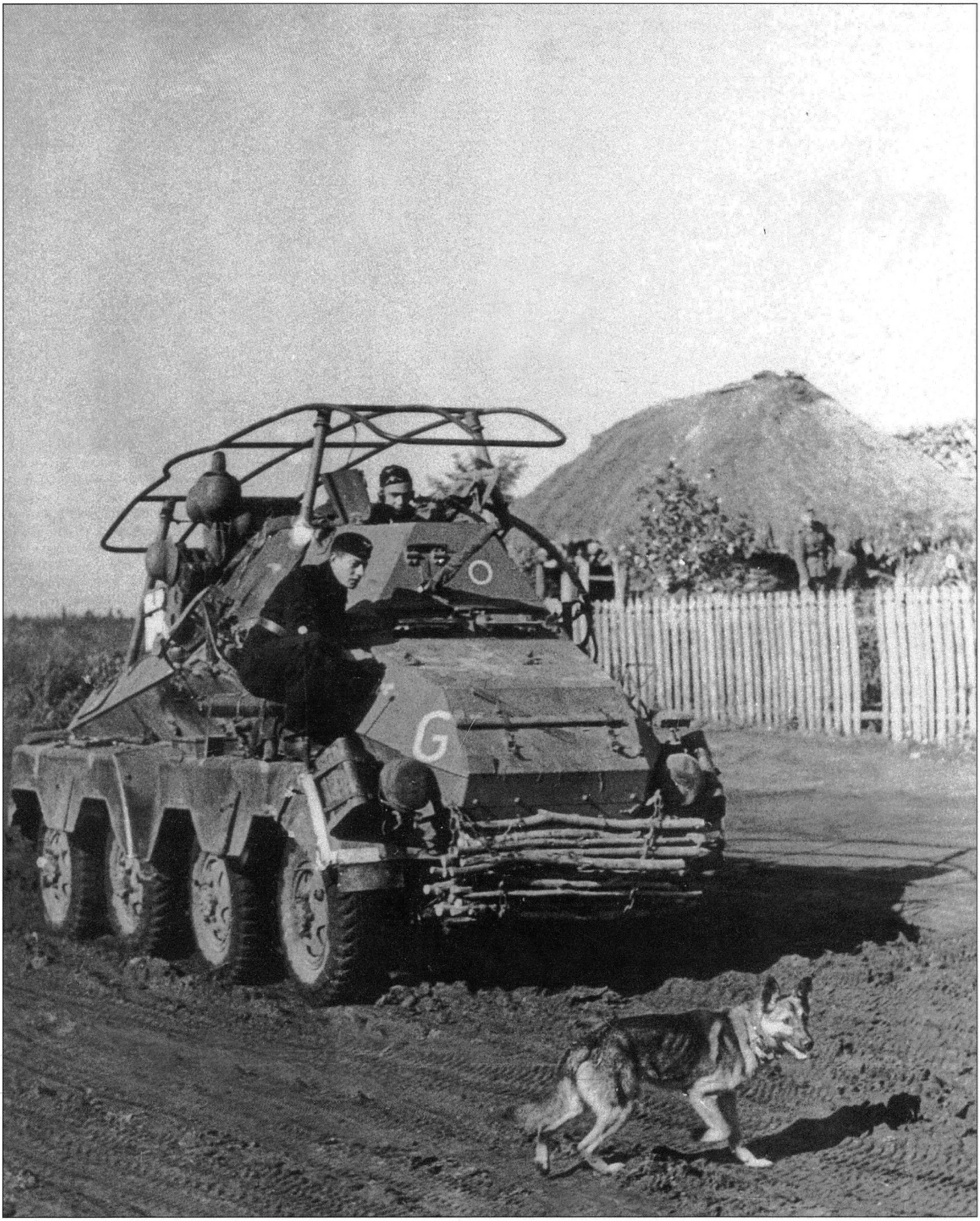




A late model Sd.Kfz.222 armored car waits at the side of the road while two officers reconnoiter the road ahead on foot. Compared to the above photo, this vehicle carries little in the way of additional equipment and displays no national markings. It does, however, have the name 'Danzig', probably in black with a white shadow, painted on the engine access hatch.



A crewman from this Pz.Kpfw.II Ausf.A-C fires his MP38 or MP40 at a target in the distance. The effective range of this weapon was rather short, and judging by the casual stance of the other crewman, they were probably not in any immediate danger. Like most other vehicles of the Panzer-Divisions, this tank is carrying a large quantity of additional equipment stowed on the outside. Part of the tactical number, a large, possibly red with white outline '12', can be seen on the turret. By the end of the summer of 1941, 458 Pz.Kpfw.II were still operational in the Panzer-Divisions in the east, 146 were in need of repairs and 152 had been lost.



\A heavily laden Panzerfunkwagen (Sd.Kfz.263) 8-Rad of an unidentified unit, patrols a village in early autumn, 1941. The crew warily eye the dog on the road as the Soviets were known to train dogs with explosives strapped to their backs to run under armored vehicles. A simple lever switch on top would then detonate the device. The letter 'G' painted in white on the front indicates the vehicle belongs to one of the Panzer-Divisions in Panzer-Gruppe Guderian. White road width markings are painted on the corners of the mudguards and part of a name can be seen behind the knee of the crewman outside the vehicle. The meaning of the white circle is unknown.

402

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